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## References

- Abele, Andrea E., Hauke, Nicole, Peters, Kim, Louvet, Eva, Szymkow, Aleksandra, and Duan, Yanping. Facets of the fundamental content dimensions: Agency with competence and assertiveness—Communion with warmth and morality. *Frontiers in Psychology*, 7:1810, 2016. doi: 10.3389/fpsyg.2016.01810. URL <https://doi.org/10.3389/fpsyg.2016.01810>.
- Abené, Clayton. San Francisco approves police proposal to use potentially deadly robots. *The Guardian*, 2022. URL [www.theguardian.com/us-news/2022/nov/29/san-francisco-police-robots-deadly-force](http://www.theguardian.com/us-news/2022/nov/29/san-francisco-police-robots-deadly-force).
- Abras, Chadia, Maloney-Krichmar, Diane, and Preece, Jenny. User-centered design. In Bainbridge, William Sims, editor, *Berkshire Encyclopedia of Human-Computer Interaction*, volume 2, pages 763–767. SAGE Publications, Thousand Oaks, CA, 2004. ISBN 9780974309125. URL <http://worldcat.org/oclc/635690108>.
- Admoni, Henny, and Scassellati, Brian. Social eye gaze in human-robot interaction: A review. *Journal of Human-Robot Interaction*, 6(1):25–63, 2017. doi: 10.5898/JHRI.6.1.Admoni. URL <https://doi.org/10.5898/JHRI.6.1.Admoni>.
- Akdim, Khaoula, Belanche, Daniel, and Flavián, Marta. Attitudes toward service robots: Analyses of explicit and implicit attitudes based on anthropomorphism and construal level theory. *International Journal of Contemporary Hospitality Management*, 35(8):2816–2837, 2021. doi: 10.1108/IJCHM-12-2020-1406. URL <https://doi.org/10.1108/IJCHM-12-2020-1406>.
- Al Momin, Md Abdullah, and Islam, Md Nazmul. Teleoperated surgical robot security: Challenges and solutions. In Hei, Xiali, editor, *Security, Data Analytics, and Energy-Aware Solutions in the IoT*, pages 143–160. IGI Global, Hershey, PA, 2022. doi: 10.4018/978-1-7998-7323-5.ch009. URL <https://doi.org/10.4018/978-1-7998-7323-5.ch009>.
- Alaerts, Kaat, Nackaerts, Evelien, Meyns, Pieter, Swinnen, Stephan P., and Wenderoth, Nicole. Action and emotion recognition from point light displays: An investigation of gender differences. *PloS One*, 6(6):e20989, 2011. doi: 10.1371/journal.pone.0020989. URL <https://doi.org/10.1371/journal.pone.0020989>.
- Aldiss, Brian Wilson. *Supertoys Last All Summer Long: And Other Stories of Future Time*. St. Martin's Griffin, New York, 2001. ISBN 978-0312280611. URL <http://worldcat.org/oclc/956323493>.
- Alemi, Minoo, Meghdari, Ali, and Ghazisaedy, Maryam. Employing humanoid robots for teaching English language in Iranian junior high-schools. *International Journal of Humanoid Robotics*, 11(3):1450022, 2014. doi: 10.1142/S0219843614500224. URL <https://doi.org/10.1142/S0219843614500224>.
- Alenljung, Beatrice, Lindblom, Jessica, Andreasson, Rebecca, and Ziemke, Tom. User experience in social human-robot interaction. In *Rapid Automation: Concepts, Methodologies, Tools, and Applications*, pages 1468–1490. IGI Global, Hershey, PA, 2019. doi: 10.4018/978-1-5225-8060-7.ch069. URL <https://doi.org/10.4018/978-1-5225-8060-7.ch069>.
- Alexander, Christopher. *A Pattern Language: Towns, Buildings, Construction*. Oxford University Press, Oxford, 1977. ISBN 978-0195019193. URL <http://worldcat.org/oclc/961298119>.

- Allan, Dwain Donald, Vonasch, Andrew, and Bartneck, Christoph. “I Have to Praise You Like I Should?” The effects of implicit self-theories and robot-delivered praise on evaluations of a social robot. *International Journal of Social Robotics*, 14:1013–1024, 2022. doi: 10.1007/s12369-021-00848-9. URL <https://doi.org/10.1007/s12369-021-00848-9>.
- Althaus, Philipp, Ishiguro, Hiroshi, Kanda, Takayuki, Miyashita, Takahiro, and Christensen, Henrik I. Navigation for human-robot interaction tasks. In *IEEE International Conference on Robotics and Automation*, volume 2, pages 1894–1900. Institute of Electrical and Electronics Engineers, Piscataway, NJ, 2004. ISBN 0-7803-8232-3. doi: 10.1109/ROBOT.2004.1308100. URL <https://doi.org/10.1109/ROBOT.2004.1308100>.
- Aly, Amir, and Tapus, Adriana. A model for synthesizing a combined verbal and nonverbal behavior based on personality traits in human-robot interaction. In *Proceedings of the 8th ACM/IEEE International Conference on Human-Robot Interaction*, pages 325–332. Institute of Electrical and Electronics Engineers, Piscataway, NJ, 2013. ISBN 978-1-4673-3055-8. doi: 10.1109/HRI.2013.6483606. URL <https://doi.org/10.1109/HRI.2013.6483606>.
- American Osteopathic Association. Survey finds nearly three-quarters (72%) of Americans feel lonely, 2016. URL [www.osteopathic.org/inside-aoa/news-and-publications/media-center/2016-news-releases/Pages/10-11-survey-finds-nearly-three-quarters-of-americans-feel-lonely.aspx](http://www.osteopathic.org/inside-aoa/news-and-publications/media-center/2016-news-releases/Pages/10-11-survey-finds-nearly-three-quarters-of-americans-feel-lonely.aspx).
- Andersen, Peter A., and Guerrero, Laura K. Principles of communication and emotion in social interaction. In Andersen, Peter A., and Guerrero, Laura K., editors, *Handbook of Communication and Emotion: Research, Theory, Applications, and Contexts*, pages 49–96. Academic Press, Cambridge, MA, 1998. ISBN 0-12-057770-4. doi: 10.1016/B978-012057770-5/50005-9. URL <https://doi.org/10.1016/B978-012057770-5/50005-9>.
- Andrist, Sean, Tan, Xiang Zhi, Gleicher, Michael, and Mutlu, Bilge. Conversational gaze aversion for humanlike robots. In *ACM/IEEE International Conference on Human-Robot Interaction*, pages 25–32. Association for Computing Machinery, New York, 2014. ISBN 978-1-4503-2658-2. doi: 10.1145/2559636.2559666. URL <https://doi.org/10.1145/2559636.2559666>.
- Argall, Brenna D., Chernova, Sonia, Veloso, Manuela, and Browning, Brett. A survey of robot learning from demonstration. *Robotics and Autonomous Systems*, 57(5):469–483, 2009. doi: 10.1016/j.robot.2008.10.024. URL <https://doi.org/10.1016/j.robot.2008.10.024>.
- Arora, Anshu Saxena, Fleming, Mayumi, Arora, Amit, Taras, Vas, and Xu, Jiajun. Finding “H” in HRI: Examining human personality traits, robotic anthropomorphism, and robot likeability in human-robot interaction. *International Journal of Intelligent Information Technologies (IJIIT)*, 17(1):19–38, 2021. doi: 10.4018/IJIIT.2021010102. URL <http://doi.org/10.4018/IJIIT.2021010102>.
- Asaro, Peter. “Hands up, don’t shoot!” HRI and the automation of police use of force. *Journal of Human-Robot Interaction*, 5(3):55–69, 2016. doi: 10.5898/JHRI.5.3.Asaro. URL <https://doi.org/10.5898/JHRI.5.3.Asaro>.
- Asch, Solomon E. Effects of group pressure upon the modification and distortion of judgments. In Guetzkow, Harold, editor, *Groups, Leadership and Men: Research in Human Relations*, pages 177–190. Carnegie Press, Oxford, UK, 1951. doi: psycinfo/1952-00803-001. URL <http://doi.apa.org/psycinfo/1952-00803-001>.
- Asimov, Isaac. *The Bicentennial Man and Other Stories*. Doubleday, Garden City, NY, Book Club edition, 1976. ISBN 978-0385121989. URL <http://worldcat.org/oclc/85069299>.
- Asimov, Isaac. *Prelude to Foundation*. Grafton, London, 1988. ISBN 9780008117481. URL <http://worldcat.org/oclc/987248670>.
- Asimov, Isaac. *I, Robot*. Bantam Books, New York, 1991. ISBN 0553294385. URL <http://worldcat.org/oclc/586089717>.
- Aviezer, Hillel, Trope, Yaacov, and Todorov, Alexander. Body cues, not facial expressions, discriminate between intense positive and negative emotions. *Science*, 338(6111):1225–1229, 2012. doi: 10.1126/science.1224313. URL <https://doi.org/10.1126/science.1224313>.

- Awad, Edmond, Dsouza, Sohan, Kim, Richard, Schulz, Jonathan, Henrich, Joseph, Shariff, Azim, Bonnefon, Jean-François, and Rahwan, Iyad. The moral machine experiment. *Nature*, 563:59–63, 2018. ISSN 1476-4687. doi: 10.1038/s41586-018-0637-6. URL <https://doi.org/10.1038/s41586-018-0637-6>.
- Axelsson, Minja, Oliveira, Raquel, Racca, Mattia, and Kyrki, Ville. Social robot co-design canvases: A participatory design framework. *ACM Transactions on Human-Robot Interaction (THRI)*, 11(1):1–39, 2021. doi: 10.1145/3472225. URL <https://doi.org/10.1145/3472225>.
- Badenes-Ribera, Laura, Frías-Navarro, Dolores, Monterde-i Bort, Héctor, and Pascual-Soler, Marcos. Interpretation of the p value: A national survey study in academic psychologists from Spain. *Psicothema*, 27(3):290–295, 2015. doi: 10.7334/psicothema2014.283. URL <https://doi.org/10.7334/psicothema2014.283>.
- Bainbridge, Wilma A., Hart, Justin W., Kim, Elizabeth S., and Scassellati, Brian. The benefits of interactions with physically present robots over video-displayed agents. *International Journal of Social Robotics*, 3(1):41–52, 2011. ISSN 1875-4805. doi: 10.1007/s12369-010-0082-7. URL <https://doi.org/10.1007/s12369-010-0082-7>.
- Barney, Jay B., and Hansen, Mark H. Trustworthiness as a source of competitive advantage. *Strategic Management Journal*, 15(S1):175–190, 1994. doi: 10.1002/smj.4250150912. URL <https://doi.org/10.1002/smj.4250150912>.
- Barrat, James. Why Stephen Hawking and Bill Gates are terrified of artificial intelligence. *Huffington Post*, 2015. URL [http://huffingtonpost.com/james-barrat/hawking-gates-artificial-intelligence\\_b\\_7008706.html](http://huffingtonpost.com/james-barrat/hawking-gates-artificial-intelligence_b_7008706.html).
- Bartlett, Madeleine E., Edmunds, C. E. R., Belpaeime, Tony, and Thill, Serge. Have I got the power? Analysing and reporting statistical power in HRI. *ACM Transactions on Human-Robot Interaction (THRI)*, 11(2):1–16, 2022. doi: 10.1145/3495246. URL <https://doi.org/10.1145/3495246>.
- Bartneck, Christoph. eMuu: An embodied emotional character for the ambient intelligent home. PhD thesis, Technische Universiteit Eindhoven, 2002. URL <http://bartneck.de/publications/2002/eMuu/bartneckPHDThesis2002.pdf>.
- Bartneck, Christoph. The science beyond the horizon [podcast transcript], 2021. URL [www.human-robot-interaction.org/2021/09/15/flaky-conferences-and-journals-in-human-robot-interaction/](http://www.human-robot-interaction.org/2021/09/15/flaky-conferences-and-journals-in-human-robot-interaction/).
- Bartneck, Christoph, and Hu, Jun. Rapid prototyping for interactive robots. In *The 8th Conference on Intelligent Autonomous Systems (IAS-8)*, pages 136–145. Association for Computing Machinery, New York, 2004. doi: 10.6084/m9.figshare.5160775.v1. URL <https://doi.org/10.6084/m9.figshare.5160775.v1>.
- Bartneck, Christoph, and Lyons, Michael J. Facial expression analysis, modeling and synthesis: Overcoming the limitations of artificial intelligence with the art of the soluble. In Vallverdu, Jordi, and Casacuberta, David, editors, *Handbook of Research on Synthetic Emotions and Sociable Robotics: New Applications in Affective Computing and Artificial Intelligence*, pages 33–53. IGI Global, Hershey, PA, 2009. URL <http://bartneck.de/publications/2009/facialExpressionAnalysisModelingSynthesisAI/bartneckLyonsEmotionBook2009.pdf>.
- Bartneck, Christoph, and Moltchanova, Elena. Expressing uncertainty in human-robot interaction. *PLOS One*, 15(7):1–20, 07 2020. doi: 10.1371/journal.pone.0235361. URL <https://doi.org/10.1371/journal.pone.0235361>.
- Bartneck, Christoph, and Rautenberg, M. HCI reality—An unreal tournament. *International Journal of Human-Computer Studies*, 65(8):737–743, 2007. doi: 10.1016/j.ijhcs.2007.03.003. URL <https://doi.org/10.1016/j.ijhcs.2007.03.003>.
- Bartneck, Christoph, and Reichenbach, Juliane. Subtle emotional expressions of synthetic characters. *International Journal of Human-Computer Studies*, 62(2):179–192, 2005. ISSN 1071-5819. doi: 10.1016/j.ijhcs.2004.11.006. URL <https://doi.org/10.1016/j.ijhcs.2004.11.006>.
- Bartneck, Christoph, Nomura, Tatsuya, Kanda, Takayuki, Suzuki, Tomohiro, and Kennsuke, Kato. Cultural differences in attitudes towards robots. In *AISB Symposium on Robot*

- Companions: Hard Problems and Open Challenges in Human-Robot Interaction*, pages 1–4. Society for the Study of Artificial Intelligence and the Simulation of Behaviour (AISB), Hatfield, UK, 2005. doi: 10.13140/RG.2.2.22507.34085. URL <http://bartneck.de/publications/2005/cultureNars/bartneckAISB2005.pdf>.
- Bartneck, Christoph, Croft, Elizabeth, Kulic, Dana, and Zoghbi, Susana. Measurement instruments for the anthropomorphism, animacy, likeability, perceived intelligence, and perceived safety of robots. *International Journal of Social Robotics*, 1(1):71–81, 2009. doi: 10.1007/s12369-008-0001-3. URL <https://doi.org/10.1007/s12369-008-0001-3>.
- Bartneck, Christoph, Duenser, Andreas, Moltchanova, Elena, and Zawieska, Karolina. Comparing the similarity of responses received from studies in Amazon’s Mechanical Turk to studies conducted online and with direct recruitment. *PloS One*, 10(4):e0121595, 2015a. doi: 10.1371/journal.pone.0121595. URL <https://doi.org/10.1371/journal.pone.0121595>.
- Bartneck, Christoph, Soucy, Marius, Fleuret, Kevin, and Sandoval, Eduardo B. The robot engine—making the Unity 3D game engine work for HRI. In *24th IEEE International Symposium on Robot and Human Interactive Communication (RO-MAN)*, pages 431–437. Institute of Electrical and Electronics Engineers, Piscataway, NJ, 2015b. doi: 10.1109/ROMAN.2015.7333561. URL <https://doi.org/10.1109/ROMAN.2015.7333561>.
- Bartneck, Christoph, Yogeeswaran, Kumar, Ser, Qi Min, Woodward, Graeme, Sparrow, Robert, Wang, Siheng, and Eyssel, Friederike. Robots and racism. In *Proceedings of the ACM/IEEE International Conference on Human-Robot Interaction*, pages 196–204. Association for Computing Machinery, New York, 2018. ISBN 978-1-4503-4953-6. doi: 10.1145/3171221.3171260. URL <https://doi.org/10.1145/3171221.3171260>.
- Baumann, Timo, and Schlangen, David. The INPROTK 2012 release. In *NAACL-HLT Workshop on Future Directions and Needs in the Spoken Dialog Community: Tools and Data*, pages 29–32. Association for Computational Linguistics, Toronto, Canada, 2012. URL <http://dl.acm.org/citation.cfm?id=2390444.2390464>.
- Baumeister, Roy F., and Leary, Mark R. The need to belong: Desire for interpersonal attachments as a fundamental human motivation. *Psychological Bulletin*, 117(3):497–529, 1995. doi: 10.1037/0033-2909.117.3.497. URL <https://doi.org/10.1037/0033-2909.117.3.497>.
- Baxter, Paul, Kennedy, James, Senft, Emmanuel, Lemaignan, Severin, and Belpaeime, Tony. From characterising three years of HRI to methodology and reporting recommendations. In *11th ACM/IEEE International Conference on Human-Robot Interaction*, pages 391–398. Institute of Electrical and Electronics Engineers, Piscataway, NJ, 2016. ISBN 978-1-4673-8370-7. doi: 10.1109/HRI.2016.7451777. URL <https://doi.org/10.1109/HRI.2016.7451777>.
- Baytas, Mehmet Aydin, Çay, Damla, Zhang, Yuchong, Obaid, Mohammad, Yantaç, Asim Evren, and Fjeld, Morten. The design of social drones: A review of studies on autonomous flyers in inhabited environments. In *Proceedings of the 2019 CHI Conference on Human Factors in Computing Systems*, pages 1–13. Association for Computing Machinery, New York, 2019. doi: 10.1145/3290605.3300480. URL <https://doi.org/10.1145/3290605.3300480>.
- Beck, Aryel, Hiolle, Antoine, Mazel, Alexandre, and Cañamero, Lola. Interpretation of emotional body language displayed by robots. In *Proceedings of the 3rd International Workshop on Affective Interaction in Natural Environments*, pages 37–42. Association for Computing Machinery, New York, 2010. ISBN 978-1-4503-0170-1. doi: 10.1145/1877826.1877837. URL <https://doi.org/10.1145/1877826.1877837>.
- Beedie, Christopher, Terry, Peter, and Lane, Andrew. Distinctions between emotion and mood. *Cognition & Emotion*, 19(6):847–878, 2005. doi: 10.1080/0269930541000057. URL <https://doi.org/10.1080/0269930541000057>.
- Belpaeime, Tony, Baxter, Paul E., Read, Robin, Wood, Rachel, Cuayahuitl, Heriberto, Kiefer, Bernd, Racioppa, Stefania, Kruijff-Korbayová, Ivana, Athanasopoulos, Georgios, Enescu, Valentin, et al. Multimodal child-robot interaction: Building social bonds. *Journal of*

- Human-Robot Interaction*, 1(2):33–53, 2012. doi: 10.5898/JHRI.1.2.Belpaeme. URL <https://doi.org/10.5898/JHRI.1.2.Belpaeme>.
- Belpaeme, Tony, Kennedy, James, Baxter, Paul, Vogt, Paul, Krahmer, Emiel E. J., Kopp, Stefan, Bergmann, Kirsten, Leseman, Paul, Küntay, Aylin C., Göksun, Tilbe, et al. L2TOR-second language tutoring using social robots. In *Proceedings of the ICSR 2015 WONDER Workshop*. Springer-Verlag, Berlin, 2015. URL <https://pub.uni-bielefeld.de/download/2900267/2900268>.
- Belpaeme, Tony, Kennedy, James, Ramachandran, Aditi, Scassellati, Brian, and Tanaka, Fumihide. Social robots for education: A review. *Science Robotics*, 3(21):eaat5954, 2018. doi: 10.1126/scirobotics.aat5954. URL <http://doi.org/10.1126/scirobotics.aat5954>.
- Bem, Sandra L. The measurement of psychological androgyny. *Journal of Consulting and Clinical Psychology*, 42(2):155–162, 1974. doi: 10.1037/h0036215. URL <https://doi.org/10.1037/h0036215>.
- Bendel, Oliver. Love dolls and sex robots in unproven and unexplored fields of application. *Paladyn, Journal of Behavioral Robotics*, 12(1):1–12, 2021. doi: 10.1515/pjbr-2021-0004. URL <https://doi.org/10.1515/pjbr-2021-0004>.
- Berghuis, Koen. Robot “preacher” can beam light from its hands and give automated blessings to worshippers. *The Mirror*, 2017. URL [www.mirror.co.uk/news/weird-news/robot-preacher-can-beam-light-10523678](http://www.mirror.co.uk/news/weird-news/robot-preacher-can-beam-light-10523678).
- Bernotat, Jasmin, Schiffhauer, Birte, Eyssel, Friederike, Holthaus, Patrick, Leichsenring, Christian, Richter, Viktor, Pohling, Marian, Carlmeyer, Birte, Köster, Norman, zu Borgsen, Sebastian Meyer, et al. Welcome to the future: How naïve users intuitively address an intelligent robotics apartment. In *International Conference on Social Robotics*, pages 982–992. Springer, Cham, Switzerland, 2016. ISBN 978-3-319-47436-6. doi: 10.1007/978-3-319-47437-3\_96. URL [https://doi.org/10.1007/978-3-319-47437-3\\_96](https://doi.org/10.1007/978-3-319-47437-3_96).
- Bernotat, Jasmin, Eyssel, Friederike, and Sachse, Janik. Shape it—The influence of robot body shape on gender perception in robots. In *International Conference on Social Robotics*, pages 75–84. Springer, Cham, Switzerland, 2017. ISBN 978-3-319-70021-2. doi: 10.1007/978-3-319-70022-9\_8. URL [https://doi.org/10.1007/978-3-319-70022-9\\_8](https://doi.org/10.1007/978-3-319-70022-9_8).
- Berzuk, James M., and Young, James E. More than words: A framework for describing human-robot dialog designs. In *Proceedings of the 2022 ACM/IEEE International Conference on Human-Robot Interaction*, pages 393–401. Institute of Electrical and Electronics Engineers, Piscataway, NJ, 2022. URL <https://doi.org/10.1109/HRI53351.2022.9889423>.
- Bethel, Cindy L., and Murphy, Robin R. Survey of non-facial/non-verbal affective expressions for appearance-constrained robots. *IEEE Transactions on Systems, Man, and Cybernetics, Part C (Applications and Reviews)*, 38(1):83–92, 2008. doi: 10.1109/TSMCC.2007.905845. URL <https://doi.org/10.1109/TSMCC.2007.905845>.
- Bethel, Cindy L., and Murphy, Robin R. Review of human studies methods in HRI and recommendations. *International Journal of Social Robotics*, 2(4):347–359, 2010. doi: 10.1007/s12369-010-0064-9. URL <https://doi.org/10.1007/s12369-010-0064-9>.
- Bethel, Cindy L., Salomon, Kristen, Murphy, Robin R., and Burke, Jennifer L. Survey of psychophysiology measurements applied to human-robot interaction. In *The 16th IEEE International Symposium on Robot and Human Interactive Communication*, pages 732–737. Institute of Electrical and Electronics Engineers, Piscataway, NJ, 2007. ISBN 978-1-4244-1634-9. doi: 10.1109/ROMAN.2007.4415182. URL <https://doi.org/10.1109/ROMAN.2007.4415182>.
- Bhat, Ashwin Sadananda, Boersma, Christiaan, Meijer, Max Jan, Dokter, Maaike, Bohlmeijer, Ernst, and Li, Jamy. Plant robot for at-home behavioral activation therapy reminders to young adults with depression. *ACM Transactions on Human-Robot Interaction (THRI)*, 10(3):1–21, 2021. doi: 10.1145/3442680. URL <https://doi.org/10.1145/3442680>.
- Biros, David P., Daly, Mark, and Gunsch, Gregg. The influence of task load and automation trust on deception detection. *Group Decision and Negotiation*, 13(2):173–189, 2004. doi: 10.1023/B:GRUP.0000021840.85686.57. URL <https://doi.org/10.1023/B:GRUP.0000021840.85686.57>.

- Björling, Elin A., Xu, Wendy M., Cabrera, Maria E., and Cakmak, Maya. The effect of interaction and design participation on teenagers' attitudes towards social robots. In *2019 28th IEEE International Conference on Robot and Human Interactive Communication (RO-MAN)*, pages 1–7. Institute of Electrical and Electronics Engineers, Piscataway, NJ, 2019. doi: 10.1109/RO-MAN46459.2019.8956427. URL <https://doi.org/10.1109/RO-MAN46459.2019.8956427>.
- Björling, Elin A., Thomas, Kyle, Rose, Emma J., and Cakmak, Maya. Exploring teens as robot operators, users and witnesses in the wild. *Frontiers in Robotics and AI*, 7:5, 2020. doi: 10.3389/frobt.2020.00005. URL <https://doi.org/10.3389/frobt.2020.00005>.
- Blair, James R. Responding to the emotions of others: Dissociating forms of empathy through the study of typical and psychiatric populations. *Consciousness and Cognition*, 14(4):698–718, 2005. doi: 10.1016/j.concog.2005.06.004. URL <https://doi.org/10.1016/j.concog.2005.06.004>.
- Bloom, Benjamin S. The 2 sigma problem: The search for methods of group instruction as effective as one-to-one tutoring. *Educational Researcher*, 13(6):4–16, 1984. doi: 10.3102/0013189X013006004. URL <https://doi.org/10.3102/0013189X013006004>.
- Bloomberg. Apple scales back self-driving car, delays debut until 2026. *Automotive News Europe*, 2022. URL <https://europe.autonews.com/automakers/apple-scales-back-self-driving-car-delays-debut-until-2026>.
- Bogue, Robert. Exoskeletons and robotic prosthetics: A review of recent developments. *Industrial Robot: An International Journal*, 36(5):421–427, 2009. doi: 10.1108/01439910910980141. URL <https://doi.org/10.1108/01439910910980141>.
- Bohn, Dieter. Elon Musk: Negative media coverage of autonomous vehicles could be “killing people”. *The Verge*, 2016. URL [www.theverge.com/2016/10/19/13341306/elon-musk-negative-media-autonomous-vehicles-killing-people](http://www.theverge.com/2016/10/19/13341306/elon-musk-negative-media-autonomous-vehicles-killing-people).
- Bonanno, George A., Goorin, Laura, and Coifman, Karin G. Social functions of emotion. In Lewis, Michael, Haviland-Jones, Jeanette M., and Feldman Barrett, Lisa, editors, *Handbook of Emotions*, volume 3, pages 456–468. Guilford Press, New York, 2008. ISBN 978-1-59385-650-2. URL <http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.472.7583&rep=rep1&type=pdf>.
- Borenstein, Jason, and Arkin, Ronald. Robots, ethics, and intimacy: The need for scientific research. In Berkich, Don, and d’Alfonso, Matteo Vincenzo, editors, *On the Cognitive, Ethical, and Scientific Dimensions of Artificial Intelligence*, pages 299–309. Springer, Cham, Switzerland, 2019. doi: 10.1007/978-3-030-01800-9\_16. URL [https://doi.org/10.1007/978-3-030-01800-9\\_16](https://doi.org/10.1007/978-3-030-01800-9_16).
- Borenstein, Jason, Howard, Ayanna, and Wagner, Alan R. Pediatric robotics and ethics: The robot is ready to see you now, but should it be trusted? In Lin, Patrick, Abney, Keith, and Jenkins, Ryan, editors, *Robot Ethics 2.0: From Autonomous Cars to Artificial Intelligence*, pages 127–141. Oxford University Press, Oxford, 2017. doi: 10.1093/oso/9780190652951.003.0009. URL <https://doi.org/10.1093/oso/9780190652951.003.0009>.
- Bose, Debajyoti, Mohan, Karthi, Meera, C. S., Yadav, Monika, and Saini, Devender K. Review of autonomous campus and tour guiding robots with navigation techniques. *Australian Journal of Mechanical Engineering*, 21(5):1580–1590, 2022. doi: 10.1080/14484846.2022.12023266. URL <https://doi.org/10.1080/14484846.2022.12023266>.
- Brahnam, Sheryl, and De Angeli, Antonella. Gender affordances of conversational agents. *Interacting with Computers*, 24(3):139–153, 2012. doi: 10.1016/j.intcom.2012.05.001. URL <https://doi.org/10.1016/j.intcom.2012.05.001>.
- Braitenberg, Valentino. *Vehicles: Experiments in Synthetic Psychology*. MIT Press, Cambridge, MA, 1986. ISBN 978-0262521123. URL <http://worldcat.org/oclc/254155258>.
- Brandstetter, Jürgen, Rácz, Péter, Beckner, Clay, Sandoval, Eduardo B., Hay, Jennifer, and Bartneck, Christoph. A peer pressure experiment: Recreation of the Asch conformity experiment with robots. In *IEEE/RSJ International Conference on Intelligent Robots and Systems*, pages 1335–1340. Institute of Electrical and Electronics Engineers, Piscataway, 2019.

- NJ, 2014. ISBN 978-1-4799-6934-0. doi: 10.1109/IROS.2014.6942730. URL <https://doi.org/10.1109/IROS.2014.6942730>.
- Brandstetter, Jurgen, Sandoval, Eduardo B., Beckner, Clay, and Bartneck, Christoph. Persistent lexical entrainment in HRI. In *ACM/IEEE International Conference on Human-Robot Interaction*, pages 63–72. Association for Computing Machinery, New York, 2017. ISBN 978-1-4503-4336-7. doi: 10.1145/2909824.3020257. URL <https://doi.org/10.1145/2909824.3020257>.
- Breazeal, Cynthia. *Designing Sociable Robots*. MIT Press, Cambridge, MA, 2003. ISBN 978-0262524315. URL <http://worldcat.org/oclc/758042496>.
- Breazeal, Cynthia. Function meets style: Insights from emotion theory applied to HRI. *IEEE Transactions on Systems, Man, and Cybernetics, Part C (Applications and Reviews)*, 34(2):187–194, 2004a. doi: 10.1109/TSMCC.2004.826270. URL <https://doi.org/10.1109/TSMC.2004.826270>.
- Breazeal, Cynthia. Social interactions in HRI: The robot view. *IEEE Transactions on Systems, Man, and Cybernetics, Part C (Applications and Reviews)*, 34(2):181–186, 2004b. doi: 10.1109/TSMCC.2004.826268. URL <https://doi.org/10.1109/TSMCC.2004.826268>.
- Breazeal, Cynthia, and Scassellati, Brian. A context-dependent attention system for a social robot. In *Proceedings of the 16th International Joint Conference on Artificial Intelligence, Volume 2*, pages 1146–1151. Morgan Kaufmann, Burlington, MA, 1999. URL <http://dl.acm.org/citation.cfm?id=1624312.1624382>.
- Breazeal, Cynthia, Kidd, Cory D., Thomaz, Andrea Lockerd, Hoffman, Guy, and Berlin, Matt. Effects of nonverbal communication on efficiency and robustness in human-robot teamwork. In *IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*, pages 708–713. Institute of Electrical and Electronics Engineers, Piscataway, NJ, 2005. ISBN 0-7803-8912-3. doi: 10.1109/IROS.2005.1545011. URL <https://doi.org/10.1109/IROS.2005.1545011>.
- Bremner, Paul, Pipe, Anthony, Melhuish, Chris, Fraser, Mike, and Subramanian, Sriram. Conversational gestures in human-robot interaction. In *IEEE International Conference on Systems, Man and Cybernetics*, pages 1645–1649. Institute of Electrical and Electronics Engineers, Piscataway, NJ, 2009. ISBN 978-1-4244-2793-2. doi: 10.1109/ICSMC.2009.5346903. URL <https://doi.org/10.1109/ICSMC.2009.5346903>.
- Broadbent, Elizabeth, Stafford, Rebecca, and MacDonald, Bruce. Acceptance of healthcare robots for the older population: Review and future directions. *International Journal of Social Robotics*, 1(4):319–330, 2009. doi: 10.1007/s12369-009-0030-6. URL <https://doi.org/10.1007/s12369-009-0030-6>.
- Broekens, Joost, Heerink, Marcel, and Rosendal, Henk. Assistive social robots in elderly care: A review. *Gerontechnology*, 8(2):94–103, 2009. doi: 10.4017/gt.2009.08.02.002.00. URL <https://doi.org/10.4017/gt.2009.08.02.002.00>.
- Bröhl, Christina, Nelles, Jochen, Brandl, Christopher, Mertens, Alexander, and Schlick, Christopher M. TAM reloaded: A technology acceptance model for human-robot cooperation in production systems. In *International Conference on Human-Computer Interaction*, pages 97–103. Springer, Cham, Switzerland, 2016. doi: 10.1007/978-3-319-40548-3\_16. URL [https://doi.org/10.1007/978-3-319-40548-3\\_16](https://doi.org/10.1007/978-3-319-40548-3_16).
- Brooks, Rodney. A robust layered control system for a mobile robot. *IEEE Journal on Robotics and Automation*, 2(1):14–23, 1986. doi: 10.1109/JRA.1986.1087032. URL <https://doi.org/10.1109/JRA.1986.1087032>.
- Brooks, Rodney A. Intelligence without representation. *Artificial Intelligence*, 47(1–3):139–159, 1991. doi: 10.1016/0004-3702(91)90053-M. URL [https://doi.org/10.1016/0004-3702\(91\)90053-M](https://doi.org/10.1016/0004-3702(91)90053-M).
- Brooks, Rodney Allen. *Flesh and Machines: How Robots Will Change Us*. Vintage, New York, 2003. ISBN 9780375725272. URL <http://worldcat.org/oclc/249859485>.
- Brown, Barry. The social life of autonomous cars. *Computer*, 50(2):92–96, 2017. doi: 10.1109/MC.2017.59. URL <https://doi.org/10.1109/MC.2017.59>.

- Brscić, Drazen, Kanda, Takayuki, Ikeda, Tetsushi, and Miyashita, Takahiro. Person tracking in large public spaces using 3-D range sensors. *IEEE Transactions on Human-Machine Systems*, 43(6):522–534, 2013. doi: 10.1109/THMS.2013.2283945. URL <https://doi.org/10.1109/THMS.2013.2283945>.
- Brscić, Drazen, Kidokoro, Hiroyuki, Suehiro, Yoshitaka, and Kanda, Takayuki. Escaping from children’s abuse of social robots. In *Proceedings of the 10th Annual ACM/IEEE International Conference on Human-Robot Interaction*, pages 59–66. Association for Computing Machinery, New York, 2015. ISBN 978-1-4503-2883-8. doi: 10.1145/2696454.2696468. URL <https://doi.org/10.1145/2696454.2696468>.
- Bruno, Barbara, Chong, Nak Young, Kamide, Hiroko, Kanoria, Sanjeev, Lee, Jaeryoung, Lim, Yuto, Pandey, Amit Kumar, Papadopoulos, Chris, Papadopoulos, Irena, Pecora, Federico, et al. The CARESSES EU-Japan project: Making assistive robots culturally competent. arXiv, arXiv:1708.06276, 2017. URL <https://arxiv.org/abs/1708.06276>.
- Buchanan, Richard. Wicked problems in design thinking. *Design Issues*, 8(2):5–21, 1992. URL [www.jstor.org/stable/1511637](http://www.jstor.org/stable/1511637).
- Burgard, Wolfram, Cremers, Armin B., Fox, Dieter, Hähnel, Dirk, Lakemeyer, Gerhard, Schulz, Dirk, Steiner, Walter, and Thrun, Sebastian. The interactive museum tour-guide robot. In *Proceedings of the 15th National/10th Conference on Artificial Intelligence/Innovative Applications of Artificial Intelligence*, pages 11–18. American Association for Artificial Intelligence, Menlo Park, CA, 1998. ISBN 0-262-51098-7. URL <https://dl.acm.org/citation.cfm?id=295249>.
- Cakmak, Maya, Srinivasa, Siddhartha S., Lee, Min Kyung, Forlizzi, Jodi, and Kiesler, Sara. Human preferences for robot-human hand-over configurations. In *IEEE/RSJ International Conference on Intelligent Robots and Systems*, pages 1986–1993. Institute of Electrical and Electronics Engineers, Piscataway, NJ, 2011. ISBN 978-1-61284-454-1. doi: 10.1109/IROS.2011.6094735. URL <https://doi.org/10.1109/IROS.2011.6094735>.
- Calvo, Rafael A., D’Mello, Sidney, Gratch, Jonathan, and Kappas, Arvid. *The Oxford Handbook of Affective Computing*. Oxford University Press, New York, 2015. ISBN 978-0199942237. URL <http://worldcat.org/oclc/1008985555>.
- Cameron, dir., James. *The Terminator*. Orion Pictures, Los Angeles, CA, 1984. ISBN 27616854735. URL [www.imdb.com/title/tt0088247/](http://www.imdb.com/title/tt0088247/).
- Campbell, Murray, Hoane, A. Joseph, and Hsu, Feng-hsiung. Deep Blue. *Artificial Intelligence*, 134(1-2):57–83, 2002. doi: 10.1016/S0004-3702(01)00129-1. URL [https://doi.org/10.1016/S0004-3702\(01\)00129-1](https://doi.org/10.1016/S0004-3702(01)00129-1).
- Cannon, Kelly, Lapoint, Monica Anderson, Bird, Nathaniel, Panciera, Katherine, Veeraraghavan, Harini, Papanikolopoulos, Nikolaos, and Gini, Maria. Using robots to raise interest in technology among underrepresented groups. *IEEE Robotics & Automation Magazine*, 14(2):73–81, 2007. doi: 10.1109/MRA.2007.380640. URL <https://doi.org/10.1109/MRA.2007.380640>.
- Cao, Zhe, Simon, Tomas, Wei, Shih-En, and Sheikh, Yaser. Realtime multi-person 2D pose estimation using part affinity fields. In *IEEE Conference on Computer Vision and Pattern Recognition*, pages 1302–1310. Institute of Electrical and Electronics Engineers, Piscataway, NJ, 2017. ISBN 9781538604571. doi: 10.1109/CVPR.2017.143. URL <https://doi.org/10.1109/CVPR.2017.143>.
- Carpenter, Julie. *Culture and Human-Robot Interaction in Militarized Spaces: A War Story*. Routledge, New York, 2016. ISBN 978-1-4724-4311-3. URL <http://worldcat.org/oclc/951397181>.
- Carpinella, Colleen M., Wyman, Alisa B., Perez, Michael A., and Stroessner, Steven J. The Robotic Social Attributes Scale (RoSAS): Development and validation. In *ACM/IEEE International Conference on Human-Robot Interaction*, pages 254–262. Association for Computing Machinery, New York, 2017. ISBN 978-1-4503-4336-7. doi: 10.1145/2909824.3020208. URL <https://doi.org/10.1145/2909824.3020208>.
- Carrere, Sybil, and Gottman, John Mordechai. Predicting divorce among newlyweds from the first three minutes of a marital conflict discussion. *Family Process*, 38(3):293–301, 1999.

- doi: 10.1111/j.1545-5300.1999.00293.x. URL <https://doi.org/10.1111/j.1545-5300.1999.00293.x>.
- Cassell, Justine, Sullivan, Joseph, Prevost, Scott, and Churchill, Elizabeth. *Embodied Conversational Agents*. MIT Press, Cambridge, MA, 2000. ISBN 9780262032780. URL <http://worldcat.org/oclc/440727862>.
- Cavallo, Filippo, Limosani, Raffaele, Manzi, Alessandro, Bonaccorsi, Manuele, Esposito, Raffaele, Di Rocco, Maurizio, Pecora, Federico, Teti, Giancarlo, Saffiotti, Alessandro, and Dario, Paolo. Development of a socially believable multi-robot solution from town to home. *Cognitive Computation*, 6(4):954–967, 2014. doi: 10.1007/s12559-014-9290-z. URL <https://doi.org/10.1007/s12559-014-9290-z>.
- Chang, Wan-Ling, and Šabanović, Selma. Interaction expands function: Social shaping of the therapeutic robot PARO in a nursing home. In *HRI '15: The Proceedings of the 10th Annual ACM/IEEE International Conference on Human-Robot Interaction*, pages 343–350. Association for Computing Machinery, New York, 2015. ISBN 978-1-4503-2883-8. doi: 10.1145/2696454.2696472. URL <https://doi.org/10.1145/2696454.2696472>.
- Charman, Tony, Baron-Cohen, Simon, Swettenham, John, Baird, Gillian, Cox, Antony, and Drew, Auriol. Testing joint attention, imitation, and play as infancy precursors to language and Theory of Mind. *Cognitive Development*, 15(4):481–498, 2000. doi: 10.1016/S0885-2014(01)00037-5. URL [https://doi.org/10.1016/S0885-2014\(01\)00037-5](https://doi.org/10.1016/S0885-2014(01)00037-5).
- Chartrand, Tanya L., and Bargh, John A. The chameleon effect: The perception-behavior link and social interaction. *Journal of Personality and Social Psychology*, 76(6):893–910, 1999. doi: 10.1037/0022-3514.76.6.893. URL <https://doi.org/10.1037/0022-3514.76.6.893>.
- Chen, Ching-Fu, and VG, Girish. Antecedents and outcomes of use experience of airport service robot: The stimulus-organism-response (SOR) framework. *Journal of Vacation Marketing*, page 13567667221109267, 2022. doi: 10.1177/13567667221109267. URL <https://doi.org/10.1177/13567667221109267>.
- Chen, Qian Qian, and Park, Hyun Jung. How anthropomorphism affects trust in intelligent personal assistants. *Industrial Management & Data Systems*, 29(4):570–583, 2021. doi: 10.1108/IMDS-12-2020-0761. URL <http://doi.org/10.1108/IMDS-12-2020-0761>.
- Chen, Tiffany L., King, Chih-Hung Aaron, Thomaz, Andrea L., and Kemp, Charles C. An investigation of responses to robot-initiated touch in a nursing context. *International Journal of Social Robotics*, 6(1):141–161, 2014. doi: 10.1007/s12369-013-0215-x. URL <https://doi.org/10.1007/s12369-013-0215-x>.
- Chen, Zhichao, Nakamura, Yutaka, and Ishiguro, Hiroshi. Android as a receptionist in a shopping mall using inverse reinforcement learning. *IEEE Robotics and Automation Letters*, 7(3):7091–7098, 2022. doi: 10.1109/LRA.2022.3180042. URL <https://doi.org/10.1109/LRA.2022.3180042>.
- Chikaraishi, Takenobu, Yoshikawa, Yuichiro, Ogawa, Kohei, Hirata, Oriza, and Ishiguro, Hiroshi. Creation and staging of android theatre “sayonara” towards developing highly human-like robots. *Future Internet*, 9(4):75–92, 2017. doi: 10.3390/fi9040075. URL <https://doi.org/10.3390/fi9040075>.
- Choset, Howie M., Hutchinson, Seth, Lynch, Kevin M., Kantor, George, Burgard, Wolfram, Kavraki, Lydia E., and Thrun, Sebastian. *Principles of Robot Motion: Theory, Algorithms, and Implementation*. MIT Press, Cambridge, MA, 2005. ISBN 978-026203327. URL <http://worldcat.org/oclc/762070740>.
- Christoforakos, Lara, Gallucci, Alessio, Surmava-Große, Tinatini, Ullrich, Daniel, and Diefenbach, Sarah. Can robots earn our trust the same way humans do? A systematic exploration of competence, warmth, and anthropomorphism as determinants of trust development in HRI. *Frontiers in Robotics and AI*, 8:640444, 2021. doi: 10.3389/frobt.2021.640444. URL <https://doi.org/10.3389/frobt.2021.640444>.
- Cillessen, Antonius H. N., and Rose, Amanda J. Understanding popularity in the peer system. *Current Directions in Psychological Science*, 14(2):102–105, 2005. doi: 10.1111/j.0963-7214.2005.00343.x. URL <https://doi.org/10.1111/j.0963-7214.2005.00343.x>.

- Coe, Robert. It's the effect size, stupid: What effect size is and why it is important. In *Annual Conference of the British Educational Research Association*. Educationline, Bedford Heights, UK, 2002. URL <http://leeds.ac.uk/edocol/documents/00002182.htm>.
- Cohen, Jacob. The earth is round ( $p < .05$ ). *American Psychologist*, 49:997–1003, 1994. doi: 10.1037/0003-066X.49.12.997. URL <https://doi.org/10.1037/0003-066X.49.12.997>.
- Conti, Daniela, Di Nuovo, Santo, Buono, Serafino, and Di Nuovo, Alessandro. Robots in education and care of children with developmental disabilities: a study on acceptance by experienced and future professionals. *International Journal of Social Robotics*, 9(1):51–62, 2017. doi: 10.1007/s12369-016-0359-6. URL <https://doi.org/10.1007/s12369-016-0359-6>.
- Cook, Mark. Experiments on orientation and proxemics. *Human Relations*, 23(1):61–76, 1970. doi: 10.1177/001872677002300107. URL <https://doi.org/10.1177/001872677002300107>.
- Cooney, Martin, Kanda, Takayuki, Alissandarakis, Aris, and Ishiguro, Hiroshi. Designing enjoyable motion-based play interactions with a small humanoid robot. *International Journal of Social Robotics*, 6(2):173–193, 2014. doi: 10.1007/s12369-013-0212-0. URL <https://doi.org/10.1007/s12369-013-0212-0>.
- Correll, Joshua, Park, Bernadette, Judd, Charles M, and Wittenbrink, Bernd. The police officer's dilemma: using ethnicity to disambiguate potentially threatening individuals. *Journal of Personality and Social Psychology*, 83(6):1314, 2002. doi: 10.1037//0022-3514.83.6.1314. URL <https://doi.org/10.1037/0022-3514.83.6.1314>.
- Cribb, Jo, and Glover, David. *Don't Worry about the Robots*. Allen & Unwin, Auckland, New Zealand, 2018. ISBN 9781760633509. URL <http://worldcat.org/oclc/1042120802>.
- Crisp, Richard J., and Turner, Rhianon N. Imagined intergroup contact: Refinements, debates, and clarifications. In Hodson, Gordon, and Hewstone, Miles, editors, *Advances in Intergroup Contact*, pages 149–165. Psychology Press, London, 2013. ISBN 978-1136213908. URL <http://worldcat.org/oclc/694393740>.
- Crusco, April H., and Wetzel, Christopher G. The Midas touch: The effects of interpersonal touch on restaurant tipping. *Personality and Social Psychology Bulletin*, 10(4):512–517, 1984. doi: 10.1177/0146167284104003. URL <https://doi.org/10.1177/0146167284104003>.
- Cuddy, Amy, Fiske, Susan, and Glick, Peter. Warmth and competence as universal dimensions of social perception: The stereotype content model and the BIAS map. *Advances in Experimental Social Psychology*, 40:61–149, 2008. doi: 10.1016/S0065-2601(07)00002-0. URL [https://doi.org/10.1016/S0065-2601\(07\)00002-0](https://doi.org/10.1016/S0065-2601(07)00002-0).
- Cumming, Geoff. Replication and  $p$  intervals:  $p$  values predict the future only vaguely, but confidence intervals do much better. *Perspectives on Psychological Science*, 3(4):286–300, 2008. doi: 10.1111/j.1745-6924.2008.00079.x. URL <https://doi.org/10.1111/j.1745-6924.2008.00079.x>.
- Cunneen, Martin, Mullins, Martin, and Murphy, Finbarr. Autonomous vehicles and embedded artificial intelligence: The challenges of framing machine driving decisions. *Applied Artificial Intelligence*, 33(8):706–731, 2019. doi: 10.1080/08839514.2019.1600301. URL <https://doi.org/10.1080/08839514.2019.1600301>.
- Darling, Kate. Extending legal protection to social robots: The effects of anthropomorphism, empathy, and violent behavior towards robotic objects. In Calo, Ryan A., Froomkin, Michael, and Kerr, Ian, editors, *We Robot Conference*. Edward Elgar, Cheltenham, UK, 2012. doi: 10.2139/ssrn.2044797. URL <https://doi.org/10.2139/ssrn.2044797>.
- Dautenhahn, Kerstin, Walters, Michael, Woods, Sarah, Koay, Kheng Lee, Nehaniv, Christopher L., Sisbot, A., Alami, Rachid, and Siméon, Thierry. How may I serve you? A robot companion approaching a seated person in a helping context. In *1st ACM SIGCHI/SIGART Conference on Human-Robot Interaction*, pages 172–179. Association for Computing Machinery, New York, 2006. ISBN 1-59593-294-1. doi: 10.1145/1121241.1121272. URL <https://doi.org/10.1145/1121241.1121272>.
- Davis, Joshua Ian, Senghas, Ann, Brandt, Fredric, and Ochsner, Kevin N. The effects of Botox injections on emotional experience. *Emotion*, 10(3):433, 2010. doi: 10.1037/a0018690. URL <https://doi.org/10.1037/a0018690>.

- Davison, Andrew J., Reid, Ian D., Molton, Nicholas D., and Stasse, Olivier. Monoslam: Real-time single camera slam. *IEEE Transactions on Pattern Analysis and Machine Intelligence*, 29(6):1052–1067, 2007. doi: 10.1109/TPAMI.2007.1049. URL <http://doi.org/10.1109/TPAMI.2007.1049>.
- De Angeli, Antonella. Ethical implications of verbal disinhibition with conversational agents. *PsychNology Journal*, 7(1):49–57, 2009. URL [http://psychnology.org/File/PNJ7\(1\)/PSYCHNOLOGY\\_JOURNAL\\_7\\_1\\_DEANGELI.pdf](http://psychnology.org/File/PNJ7(1)/PSYCHNOLOGY_JOURNAL_7_1_DEANGELI.pdf).
- De Graaf, Maartje, and Allouch, Somaya Ben. Exploring influencing variables for the acceptance of social robots. *Robotics and Autonomous Systems*, 61(12):1476–1486, 2013. doi: 10.1016/j.robot.2013.07.007. URL <https://doi.org/10.1016/j.robot.2013.07.007>.
- de Graaf, Maartje, Allouch, Somaya Ben, and Lutfi, Shariff. What are people's associations of domestic robots? Comparing implicit and explicit measures. In *2016 25th IEEE International Symposium on Robot and Human Interactive Communication (RO-MAN)*, pages 1077–1083. Institute of Electrical and Electronics Engineers, Piscataway, NJ, 2016. doi: 10.1109/ROMAN.2016.7745242. URL <https://doi.org/10.1109/ROMAN.2016.7745242>.
- de Graaf, Maartje, Ben Allouch, Somaya, and van Dijk, Jan. Why do they refuse to use my robot? Reasons for non-use derived from a long-term home study. In *Proceedings of the ACM/IEEE International Conference on Human-Robot Interaction*, pages 224–233. Association for Computing Machinery, New York, 2017. ISBN 978-1-4503-4336-7. doi: 10.1145/2909824.3020236. URL <https://doi.org/10.1145/2909824.3020236>.
- de Graaf, Maartje, Ben Allouch, Somaya, and Van Dijk, Jan. Why would I use this in my home? A model of domestic social robot acceptance. *Human–Computer Interaction*, 34(2):115–173, 2019. doi: 10.1080/07370024.2017.1312406. URL <https://doi.org/10.1080/07370024.2017.1312406>.
- De Visser, Ewart J., Peeters, Marieke M. M., Jung, Malte F., Kohn, Spencer, Shaw, Tyler H., Pak, Richard, and Neerincx, Mark A. Towards a theory of longitudinal trust calibration in human–robot teams. *International Journal of Social Robotics*, 12(2):459–478, 2020. doi: 10.1007/s12369-019-00596-x. URL <https://doi.org/10.1007/s12369-019-00596-x>.
- De Waal, Frans. *The Ape and the Sushi Master: Cultural Reflections of a Primatologist*. Basic Books, New York, 2001. ISBN 978-0465041763. URL <http://worldcat.org/oclc/458716823>.
- Department of Transportation. Critical reasons for crashes investigated in the national motor vehicle crash causation survey. Report, Department of Transportation, 2015. URL <https://crashstats.nhtsa.dot.gov/Api/Public/ViewPublication/812115>.
- Devlin, Kate. *Turned On: Science, Sex and Robots*. Bloomsbury, London, 2020. ISBN 9781472950901. URL [www.worldcat.org/title/1252735321](http://www.worldcat.org/title/1252735321).
- Dick, Philip K. *Blade Runner: Do Androids Dream of Electric Sheep?* Ballantine Books, New York, 25th-Anniversary edition, 2007. ISBN 9780345350473. URL <http://worldcat.org/oclc/776604212>.
- Diehl, Joshua J., Schmitt, Lauren M., Villano, Michael, and Crowell, Charles R. The clinical use of robots for individuals with autism spectrum disorders: A critical review. *Research in Autism Spectrum Disorders*, 6(1):249–262, 2012. doi: 10.1016/j.rasd.2011.05.006. URL <https://doi.org/10.1016/j.rasd.2011.05.006>.
- DiSalvo, Carl, Nourbakhsh, Illah, Holstius, David, Akin, Ayça, and Louw, Marti. The neighborhood networks project: A case study of critical engagement and creative expression through participatory design. In *10th Anniversary Conference on Participatory Design 2008*, pages 41–50. Indiana University, Indianapolis, 2008. ISBN 978-0-9818561-0-0. URL <https://dl.acm.org/citation.cfm?id=1795241>.
- DiSalvo, Carl F., Gemperle, Francine, Forlizzi, Jodi, and Kiesler, Sara. All robots are not created equal: The design and perception of humanoid robot heads. In *Proceedings of the 4th Conference on Designing Interactive Systems: Processes, Practices, Methods, and Techniques*, pages 321–326. Association for Computing Machinery, New York, 2002. ISBN 1-58113-515-7. doi: 10.1145/778712.778756. URL <http://doi.acm.org/10.1145/778712.778756>.

- Dixon, Steve. Metal performance humanizing robots, returning to nature, and camping about. *TDR/The Drama Review*, 48(4):15–46, 2004. ISSN 1054-2043. doi: 10.1162/1054204042442017. URL <http://doi.org/10.1162/1054204042442017>.
- Doan, Anhai, Ramakrishnan, Raghu, and Halevy, Alon Y. Crowdsourcing systems on the world-wide web. *Communications of the ACM*, 54(4):86–96, 2011. doi: 10.1145/1924421.1924442. URL <https://doi.org/10.1145/1924421.1924442>.
- Döring, Nicola, and Poeschl, Sandra. Love and sex with robots: A content analysis of media representations. *International Journal of Social Robotics*, 11(4):665–677, 2019. doi: 10.1007/s12369-019-00517-y. URL <https://doi.org/10.1007/s12369-019-00517-y>.
- Dragan, Anca D., Lee, Kenton C. T., and Srinivasa, Siddhartha S. Legibility and predictability of robot motion. In *8th ACM/IEEE International Conference on Human-Robot Interaction*, pages 301–308. Institute of Electrical and Electronics Engineers, Piscataway, NJ, 2013. ISBN 978-1-4673-3099-2. doi: 10.1109/HRI.2013.6483603. URL <https://doi.org/10.1109/HRI.2013.6483603>.
- Duffy, Brian R. Anthropomorphism and the social robot. *Robotics and Autonomous Systems*, 42(3):177–190, 2003. ISSN 0921-8890. doi: 10.1016/S0921-8890(02)00374-3. URL [https://doi.org/10.1016/S0921-8890\(02\)00374-3](https://doi.org/10.1016/S0921-8890(02)00374-3).
- Edwards, Autumn, Edwards, Chad, Spence, Patric R., Harris, Christina, and Gambino, Andrew. Robots in the classroom: Differences in students' perceptions of credibility and learning between "teacher as robot" and "robot as teacher". *Computers in Human Behavior*, 65: 627–634, 2016. doi: 10.1016/j.chb.2016.06.005. URL <https://doi.org/10.1016/j.chb.2016.06.005>.
- Eisenberger, Naomi I., Lieberman, Matthew D., and Williams, Kipling D. Does rejection hurt? An fMRI study of social exclusion. *Science*, 302(5643):290–292, 2003. doi: 10.1126/science.1089134. URL <https://doi.org/10.1126/science.1089134>.
- Ekkekakis, Pantaleimon. *The Measurement of Affect, Mood, and Emotion: A Guide for Health-Behavioral Research*. Cambridge University Press, Cambridge, 2013. doi: 10.1017/CBO9780511820724. URL <https://doi.org/10.1017/CBO9780511820724>.
- Ekman, Paul. Facial expressions of emotion: New findings, new questions. *Psychological Science*, 3(1):34–38, 1992. doi: 10.1111/j.1467-9280.1992.tb00253.x. URL <https://doi.org/10.1111/j.1467-9280.1992.tb00253.x>.
- Ekman, Paul. Basic emotions. In Dalgleish, Tim, and Power, Mick J., editors, *Handbook of Cognition and Emotion*, pages 45–60. Wiley Online Library, 1999. ISBN 978-1462509997. URL <http://worldcat.org/oclc/826592694>.
- Ekman, Paul, and Friesen, Wallace. *Facial Action Coding System: A technique for the measurement of facial movement*. Consulting Psychologists Press, Palo Alto, CA, 1978. doi: 10.1037/t27734-000. URL <https://doi.org/10.1037/t27734-000>.
- Ekman, Paul, and Friesen, Wallace V. *Unmasking the Face*. Prentice Hall, Englewood Cliffs, NJ, 1975. ISBN 978-1883536367. URL <http://worldcat.org/oclc/803874427>.
- El Ayadi, Moataz, Kamel, Mohamed S., and Karray, Fakhri. Survey on speech emotion recognition: Features, classification schemes, and databases. *Pattern Recognition*, 44(3): 572–587, 2011. doi: 10.1016/j.patcog.2010.09.020. URL <https://doi.org/10.1016/j.patcog.2010.09.020>.
- El Makrini, Ilias, Elprama, Shirley A., Van den Bergh, Jan, Vanderborght, Bram, Knevels, Albert-Jan, Jewell, Charlotte I. C., Stals, Frank, De Coppel, Geert, Ravyse, Ilse, Potargent, Johan, et al. Working with Walt. *IEEE Robotics & Automation Magazine*, 25:51–58, 2018. doi: 10.1109/MRA.2018.2815947. URL <https://doi.org/10.1109/MRA.2018.2815947>.
- Elder, Alexis M. *Friendship, Robots, and Social Media: False Friends and Second Selves*. Routledge, New York, 2017. ISBN 978-1138065666. URL <http://worldcat.org/oclc/1016009820>.
- Epley, Nicholas, Waytz, Adam, and Cacioppo, John T. On seeing human: A three-factor theory of anthropomorphism. *Psychological Review*, 114(4):864–886, 2007. doi: 10.1037/0033-295X.114.4.864. URL <https://doi.org/10.1037/0033-295X.114.4.864>.

- Epley, Nicholas, Waytz, Adam, Akalis, Scott, and Cacioppo, John T. When we need a human: Motivational determinants of anthropomorphism. *Social Cognition*, 26(2):143–155, 2008. doi: 10.1521/soco.2008.26.2.143. URL <https://doi.org/10.1521/soco.2008.26.2.143>.
- Erel, Hadas, Shem Tov, Tzachi, Kessler, Yoav, and Zuckerman, Oren. Robots are always social: Robotic movements are automatically interpreted as social cues. In *Extended Abstracts of the 2019 CHI Conference on Human Factors in Computing Systems*, pages 1–6. Association for Computing Machinery, New York, 2019. doi: 10.1145/3290607.3312758. URL <https://doi.org/10.1145/3290607.3312758>.
- Etz, Alexander, and Vandekerckhove, Joachim. Introduction to Bayesian inference for psychology. *Psychonomic Bulletin & Review*, 25(1):5–34, 2018. doi: 10.3758/s13423-017-1262-3. URL <https://doi.org/10.3758/s13423-017-1262-3>.
- European Commission. Attitudes towards the impact of digitisation and automation on daily life. Technical Report Special Eurobarometer 460/Wave EB87.1, Directorate-General for Information Society and Media, 2017. URL <https://europa.eu/eurobarometer/surveys/detail/2160>.
- Evans, Jonathan St B. T. Dual-processing accounts of reasoning, judgment, and social cognition. *Annual Review of Psychology*, 59(3):255–278, 2008. doi: 10.1146/annurev.psych.59.103006.093629. URL <https://doi.org/10.1146/annurev.psych.59.103006.093629>.
- Evans, Jonathan St BT, and Stanovich, Keith E. Dual-process theories of higher cognition: Advancing the debate. *Perspectives on Psychological Science*, 8(3):223–241, 2013. doi: 10.1177/1745691612460685. URL <https://doi.org/10.1177/1745691612460685>.
- Evans, Katherine, de Moura, Nelson, Chauvier, Stéphane, Chatila, Raja, and Dogan, Ebru. Ethical decision making in autonomous vehicles: The AV ethics project. *Science and Engineering Ethics*, 26:3285–3312, 2020. doi: 10.1007/s11948-020-00272-8. URL <https://doi.org/10.1007/s11948-020-00272-8>.
- Evers, Vanessa, Maldonado, Heidy C., Brodecki, Talia L., and Hinds, Pamela J. Relational vs. group self-construal: Untangling the role of national culture in HRI. In *Proceedings of the 3rd ACM/IEEE International Conference on Human-Robot Interaction*, pages 255–262. Association for Computing Machinery, New York, 2008. ISBN 978-1-60558-017-3. doi: 10.1145/1349822.1349856. URL <http://doi.acm.org/10.1145/1349822.1349856>.
- Eyben, Florian, Weninger, Felix, Gross, Florian, and Schuller, Björn. Recent developments in OpenSMILE, the Munich open-source multimedia feature extractor. In *21st ACM International Conference on Multimedia*, pages 835–838. Association for Computing Machinery, New York, 2013. ISBN 978-1-4503-2404-5. doi: 10.1145/2502081.2502224. URL <https://doi.org/10.1145/2502081.2502224>.
- Eyssel, Friederike. An experimental psychological perspective on social robotics. *Robotics and Autonomous Systems*, 87(Supplement C):363–371, 2017. ISSN 0921-8890. doi: <https://doi.org/10.1016/j.robot.2016.08.029>. URL <http://scencedirect.com/science/article/pii/S0921889016305462>.
- Eyssel, Friederike, and Hegel, Frank. (S)he's got the look: Gender stereotyping of robots. *Journal of Applied Social Psychology*, 42(9):2213–2230, 2012. doi: 10.1111/j.1559-1816.2012.00937.x. URL <https://doi.org/10.1111/j.1559-1816.2012.00937.x>.
- Eyssel, Friederike, and Kuchenbrandt, Dieta. Social categorization of social robots: Anthropomorphism as a function of robot group membership. *British Journal of Social Psychology*, 51(4):724–731, 2012. doi: 10.1111/j.2044-8309.2011.02082.x. URL <https://doi.org/10.1111/j.2044-8309.2011.02082.x>.
- Eyssel, Friederike, and Loughnan, Steve. “It don’t matter if you’re Black or White”? In *International Conference on Social Robotics*, pages 422–431. Springer, Cham, Switzerland, 2013. doi: 10.1007/978-3-319-02675-6\_42. URL [https://doi.org/10.1007/978-3-319-02675-6\\_42](https://doi.org/10.1007/978-3-319-02675-6_42).
- Eyssel, Friederike, and Reich, Natalia. Loneliness makes the heart grow fonder (of robots)—On the effects of loneliness on psychological anthropomorphism. In *Proceedings of the 8th ACM/IEEE International Conference on Human-Robot Interaction (HRI)*, pages 121–122.

- Institute of Electrical and Electronics Engineers, Piscataway, NJ, 2013. ISBN 978-1-4673-3101-2. doi: 10.1109/HRI.2013.6483531. URL <https://doi.org/10.1109/HRI.2013.6483531>.
- Eyssel, Friederike, Hegel, Frank, Horstmann, Gernot, and Wagner, Claudia. Anthropomorphic inferences from emotional nonverbal cues: A case study. In *19th International Symposium on Robot and Human Interactive Communication*, pages 646–651. Institute of Electrical and Electronics Engineers, Piscataway, NJ, 2010. doi: 10.1109/ROMAN.2010.5598687. URL <https://doi.org/10.1109/ROMAN.2010.5598687>.
- Eyssel, Friederike, Kuchenbrandt, Dieta, and Bobinger, Simon. Effects of anticipated human-robot interaction and predictability of robot behavior on perceptions of anthropomorphism. In *Proceedings of the 6th International Conference on Human-Robot Interaction*, pages 61–68. Association for Computing Machinery, New York, 2011. doi: 10.1145/1957656.1957673. URL <https://doi.org/10.1145/1957656.1957673>.
- Eyssel, Friederike, Kuchenbrandt, Dieta, Bobinger, Simon, de Ruiter, Laura, and Hegel, Frank. “If you sound like me, you must be more human”: On the interplay of robot and user features on human-robot acceptance and anthropomorphism. In *Proceedings of the 7th Annual ACM/IEEE International Conference on Human-Robot Interaction*, pages 125–126. Association for Computing Machinery, New York, 2012a. ISBN 978-1-4503-1063-5. doi: 10.1145/2157689.2157717. URL <http://doi.acm.org/10.1145/2157689.2157717>.
- Eyssel, Friederike, Kuchenbrandt, Dieta, Hegel, Frank, and de Ruiter, Laura. Activating elicited agent knowledge: How robot and user features shape the perception of social robots. In *2012 IEEE RO-MAN: The 21st IEEE International Symposium on Robot and Human Interactive Communication*, pages 851–857. Institute of Electrical and Electronics Engineers, Piscataway, NJ, 2012b. doi: 10.1109/ROMAN.2012.6343858. URL <https://doi.org/10.1109/ROMAN.2012.6343858>.
- Fagnant, Daniel J., and Kockelman, Kara. Preparing a nation for autonomous vehicles: Opportunities, barriers and policy recommendations. *Transportation Research Part A: Policy and Practice*, 77:167–181, 2015. ISSN 0965-8564. doi: <https://doi.org/10.1016/j.trra.2015.04.003>. URL <http://sciencedirect.com/science/article/pii/S0965856415000804>.
- Faul, Franz, Erdfelder, Edgar, Lang, Albert-Georg, and Axel, Buchner. G\*power 3: A flexible statistical power analysis program for the social, behavioral, and biomedical sciences. *Behavior Research Methods*, 39(2):175–191, 2007. doi: 10.3758/BF03193146. URL <https://doi.org/10.3758/BF03193146>.
- Favaro, Francesca M., Nader, Nazanin, Eurich, Sky O., Tripp, Michelle, and Varadaraju, Naresh. Examining accident reports involving autonomous vehicles in California. *PLOS One*, 12(9):1–20, 09 2017. doi: 10.1371/journal.pone.0184952. URL <https://doi.org/10.1371/journal.pone.0184952>.
- Feil-Seifer, David, and Matarić, Maja J. Socially assistive robotics. *IEEE Robotics & Automation Magazine*, 18(1):24–31, 2011. doi: 10.1109/MRA.2010.940150. URL <https://doi.org/10.1109/MRA.2010.940150>.
- Feng, Catherine, Azenkot, Shiri, and Cakmak, Maya. Designing a robot guide for blind people in indoor environments. In *The 10th Annual ACM/IEEE International Conference on Human-Robot Interaction Extended Abstracts*, pages 107–108. Association for Computing Machinery, New York, 2015. ISBN 978-1-4503-3318-4. doi: 10.1145/2701973.2702060. URL <https://doi.org/10.1145/2701973.2702060>.
- Ferrari, Francesco, Paladino, Maria Paola, and Jetten, Jolanda. Blurring human-machine distinctions: Anthropomorphic appearance in social robots as a threat to human distinctiveness. *International Journal of Social Robotics*, 8(2):287–302, 2016. doi: 10.1007/s12369-016-0338-y. URL <https://doi.org/10.1007/s12369-016-0338-y>.
- Festerling, Janik, and Siraj, Iram. Anthropomorphizing technology: A conceptual review of anthropomorphism research and how it relates to children’s engagements with digital voice assistants. *Integrative Psychological and Behavioral Science*, 56(3):709–738, 2022. doi: 10.1007/s12124-021-09668-y. URL <https://doi.org/10.1007/s12124-021-09668-y>.

- Field, Andy. *Discovering Statistics Using IBM SPSS Statistics*. SAGE Publications, Thousand Oaks, CA, 2018. ISBN 9781526419514. URL <http://worldcat.org/oclc/1030545826>.
- Field, Andy, and Hole, Graham. *How to Design and Report Experiments*. SAGE Publications, Thousand Oaks, CA, 2002. ISBN 978085702829. URL <http://worldcat.org/title/how-to-design-and-report-experiments/oclc/961100072>.
- Fink, Julia. Anthropomorphism and human likeness in the design of robots and human-robot interaction. In Ge, Shuzhi Sam, Khatib, Oussama, Cabibihan, John-John, Simmons, Reid, and Williams, Mary-Anne, editors, *Social Robotics*, pages 199–208. Springer, Berlin, 2012. ISBN 978-3-642-34103-8. URL [https://doi.org/10.1007/978-3-642-34103-8\\_20](https://doi.org/10.1007/978-3-642-34103-8_20).
- Fink, Julia, Bauwens, Valérie, Kaplan, Frédéric, and Dillenbourg, Pierre. Living with a vacuum cleaning robot. *International Journal of Social Robotics*, 5(3):389–408, Aug 2013. ISSN 1875-4805. doi: 10.1007/s12369-013-0190-2. URL <https://doi.org/10.1007/s12369-013-0190-2>.
- Fink, Julia, Lemaignan, Séverin, Dillenbourg, Pierre, Réturnaz, Philippe, Vaussard, Florian, Berthoud, Alain, Mondada, Francesco, Wille, Florian, and Franinović, Karmen. Which robot behavior can motivate children to tidy up their toys? Design and evaluation of ranger. In *ACM/IEEE International Conference on Human-Robot Interaction*, pages 439–446. Association for Computing Machinery, New York, 2014. ISBN 978-1-4503-2658-2. doi: 10.1145/2559636.2559659. URL <https://doi.org/10.1145/2559636.2559659>.
- Fisac, Jaime, Bajcsy, Andrea, Herbert, Sylvia, Fridovich-Keil, David, Wang, Steven, Tomlin, Claire, and Dragan, Anca. Probabilistically safe robot planning with confidence-based human predictions. In Kress-Gazit, Hadas, Srinivasa, Siddhartha S., Howard, Tom, and Atanasov, Nikolay, editors, *Proceedings of Robotics: Science and Systems*. MIT Press, Cambridge, MA, 2018. ISBN 978-0-9923747-4-7. doi: 10.15607/RSS.2018.XIV.069. URL <https://doi.org/10.15607/RSS.2018.XIV.069>.
- Fischer, Kerstin. Effect confirmed, patient dead: A commentary on Hoffman & Zhao's primer for conducting experiments in HRI. *ACM Transactions on Human-Robot Interaction (THRI)*, 10(1):1–4, 2021. doi: 10.1145/3439714. URL <https://doi.org/10.1145/3439714>.
- Fischer, Kerstin, Lohan, Katrin, Saunders, Joe, Nehaniv, Christopher, Wrede, Britta, and Rohlffing, Katharina. The impact of the contingency of robot feedback on HRI. In *International Conference on Collaboration Technologies and Systems*, pages 210–217. Institute of Electrical and Electronics Engineers, Piscataway, NJ, 2013. ISBN 978-1-4673-6403-4. doi: 10.1109/CTS.2013.6567231. URL <https://doi.org/10.1109/CTS.2013.6567231>.
- Fiske, Susan T., Cuddy, Amy J. C., and Glick, Peter. Universal dimensions of social cognition: Warmth and competence. *Trends in Cognitive Sciences*, 11(2):77–83, 2007. doi: 10.1016/j.tics.2006.11.005. URL <https://doi.org/10.1016/j.tics.2006.11.005>.
- Fiske, Susan T., Cuddy, Amy J. C., Glick, Peter, and Xu, Jun. A model of (often mixed) stereotype content: Competence and warmth respectively follow from perceived status and competition. *Journal of Personality and Social Psychology*, 82(6):878–902, 2002. doi: 10.1037/0022-3514.82.6.878. URL <https://psycnet.apa.org/doi/10.1037/0022-3514.82.6.878>.
- Fitter, Naomi T., Chowdhury, Yasmin, Cha, Elizabeth, Takayama, Leila, and Matarić, Maja J. Evaluating the effects of personalized appearance on telepresence robots for education. In *Companion of the 2018 ACM/IEEE International Conference on Human-Robot Interaction*, pages 109–110. Association for Computing Machinery, New York, 2018. doi: 10.1145/317386.3177030. URL <https://doi.org/10.1145/317386.3177030>.
- Ford, Martin. *The Rise of the Robots: Technology and the Threat of Mass Unemployment*. OneWorld Publications, London, 2015. ISBN 978-0465059997. URL <http://worldcat.org/oclc/993846206>.
- Forlizzi, Jodi, and DiSalvo, Carl. Service robots in the domestic environment: A study of the Roomba vacuum in the home. In *Proceedings of the 1st ACM SIGCHI/SIGART Conference on Human-Robot Interaction*, pages 258–265. Association for Computing Machinery, New York, 2006. ISBN 1-59593-294-1. doi: 10.1145/1121241.1121286. URL <http://doi.acm.org/10.1145/1121241.1121286>.

- Fosch-Villaronga, Eduard, Lutz, Christoph, and Tamò-Larrieux, Aurelia. Gathering expert opinions for social robots' ethical, legal, and societal concerns: Findings from four international workshops. *International Journal of Social Robotics*, 12(2):441–458, 2020. doi: 10.1007/s12369-019-00605-z. URL <https://doi.org/10.1007/s12369-019-00605-z>.
- Fowler, Floyd J. *Improving Survey Questions: Design and Evaluation*, volume 38. SAGE Publications, Thousand Oaks, CA, 1995. ISBN 978-0803945838. URL <http://worldcat.org/oclc/551387270>.
- Fowler, Floyd J. *Survey Research Methods*. SAGE Publications, Thousand Oaks, CA, 2013. ISBN 978-1452259000. URL <http://worldcat.org/oclc/935314651>.
- Fox, Dieter, Burgard, Wolfram, and Thrun, Sebastian. The dynamic window approach to collision avoidance. *IEEE Robotics & Automation Magazine*, 4(1):23–33, 1997. doi: 10.1109/100.580977. URL <https://doi.org/10.1109/100.580977>.
- Friedman, Batya, Kahn, Peter, and Borning, Alan. Value sensitive design: Theory and methods. Technical report, University of Washington, 2002.
- Fujita, Masahiro. Aibo: Toward the era of digital creatures. *International Journal of Robotics Research*, 20(10):781–794, 2001. doi: 10.1177/02783640122068092. URL <https://doi.org/10.1177/02783640122068092>.
- Future of Life Institute. An open letter—Research priorities for robust and beneficial artificial intelligence, January 2015. URL <https://futureoflife.org/ai-open-letter/>.
- Gargouri, Yassine, Hajjem, Chawki, Larivière, Vincent, Gingras, Yves, Carr, Les, Brody, Tim, and Harnad, Stevan. Self-selected or mandated, open access increases citation impact for higher quality research. *PLOS One*, 5(10):1–12, 10 2010. doi: 10.1371/journal.pone.0013636. URL <https://doi.org/10.1371/journal.pone.0013636>.
- Garland, dir., Alex. *Ex Machina*. A24, New York, 2014. URL [www.imdb.com/title/tt0470752](http://www.imdb.com/title/tt0470752).
- Garreau, Joel. Bots on the ground. *Washington Post*, 2007. URL <http://washingtonpost.com/wp-dyn/content/article/2007/05/05/AR2007050501009.html>.
- Gazzaley, Adam, and Rosen, Larry D. *The Distracted Mind: Ancient Brains in a High-Tech World*. MIT Press, Cambridge, MA, 2016. ISBN 978-0262534437. URL <http://worldcat.org/oclc/978487215>.
- Geisslinger, Maximilian, Poszler, Franziska, Betz, Johannes, Lütge, Christoph, and Lienkamp, Markus. Autonomous driving ethics: From trolley problem to ethics of risk. *Philosophy & Technology*, 34:1033–1055, 2021. doi: 10.1007/s13347-021-00449-4. URL <https://doi.org/10.1007/s13347-021-00449-4>.
- Gendolla, Guido H. E. On the impact of mood on behavior: An integrative theory and a review. *Review of General Psychology*, 4(4):378–408, 2000. doi: 10.1037/1089-2680.4.4.378. URL <https://doi.org/10.1037/1089-2680.4.4.378>.
- Genschow, Oliver, van Den Bossche, Sofie, Cracco, Emiel, Bardi, Lara, Rigoni, Davide, and Brass, Marcel. Mimicry and automatic imitation are not correlated. *PloS One*, 12(9):e0183784, 2017. doi: 10.1371/journal.pone.0183784. URL <https://doi.org/10.1371/journal.pone.0183784>.
- Geraci, Robert M. Spiritual robots: Religion and our scientific view of the natural world. *Theology and Science*, 4(3):229–246, 2006. doi: 10.1080/14746700600952993. URL <https://doi.org/10.1080/14746700600952993>.
- Gibson, James J. *The Ecological Approach to Visual Perception: Classic Edition*. Psychology Press, London, 2014. ISBN 978-1848725782. URL <http://worldcat.org/oclc/896794768>.
- Glas, Dylan F., Kanda, Takayuki, Ishiguro, Hiroshi, and Hagita, Norihiro. Teleoperation of multiple social robots. *IEEE Transactions on Systems, Man, and Cybernetics-Part A: Systems and Humans*, 42(3):530–544, 2011. URL <https://doi.org/10.1109/TSMCA.2011.2164243>.
- Glas, Dylan F., Kanda, Takayuki, and Ishiguro, Hiroshi. Human-robot interaction design using Interaction Composer eight years of lessons learned. In *11th ACM/IEEE International Conference on Human-Robot Interaction (HRI)*, pages 303–310. Institute of Electrical and Electronics Engineers, Piscataway, NJ, 2016. doi: 10.1109/HRI.2016.7451766. URL <https://doi.org/10.1109/HRI.2016.7451766>.

- Gockley, Rachel, Bruce, Allison, Forlizzi, Jodi, Michalowski, Marek, Mundell, Anne, Rosenthal, Stephanie, Sellner, Brennan, Simmons, Reid, Snipes, Kevin, Schultz, Alan C., et al. Designing robots for long-term social interaction. In *IEEE/RSJ International Conference on Intelligent Robots and Systems*, pages 1338–1343. Institute of Electrical and Electronics Engineers, Piscataway, NJ, 2005. ISBN 0-7803-8912-3. doi: 10.1109/IROS.2005.1545303. URL <https://doi.org/10.1109/IROS.2005.1545303>.
- Gockley, Rachel, Forlizzi, Jodi, and Simmons, Reid. Interactions with a moody robot. In *Proceedings of the 1st ACM SIGCHI/SIGART Conference on Human-Robot Interaction*, pages 186–193. Association for Computing Machinery, New York, 2006. ISBN 1-59593-294-1. doi: 10.1145/1121241.1121274. URL <https://doi.org/10.1145/1121241.1121274>.
- Gockley, Rachel, Forlizzi, Jodi, and Simmons, Reid. Natural person-following behavior for social robots. In *ACM/IEEE International Conference on Human-Robot Interaction*, pages 17–24. Institute of Electrical and Electronics Engineers, Piscataway, NJ, 2007. ISBN 978-1-59593-617-2. doi: 10.1145/1228716.1228720. URL <https://doi.org/10.1145/1228716.1228720>.
- Goldacre, Ben. *Bad Science*. Fourth Estate, London, 2008. ISBN 9780007240197. URL <http://worldcat.org/oclc/760098401>.
- Gonsior, Barbara, Sosnowski, Stefan, Mayer, Christoph, Blume, Jürgen, Radig, Bernd, Wollherr, Dirk, and Kühnlenz, Kolja. Improving aspects of empathy and subjective performance for HRI through mirroring facial expressions. In *2011 RO-MAN*, pages 350–356. Institute of Electrical and Electronics Engineers, Piscataway, NJ, 2011. doi: 10.1109/ROMAN.2011.6005294. URL <https://doi.org/10.1109/ROMAN.2011.6005294>.
- González-González, Carina Soledad, Gil-Iranzo, Rosa María, and Paderewski-Rodríguez, Patricia. Human–robot interaction and sexbots: A systematic literature review. *Sensors*, 21(1):216, 2020. doi: 10.3390/s21010216. URL <https://doi.org/10.3390/s21010216>.
- Goodfellow, Ian, Bengio, Yoshua, and Courville, Aaron. *Deep Learning*. MIT Press, Cambridge, MA, 2016. ISBN 9780262035613. URL [www.deeplearningbook.org](http://www.deeplearningbook.org).
- Goodman, Joseph K., Cryder, Cynthia E., and Cheema, Amar. Data collection in a flat world: The strengths and weaknesses of Mechanical Turk samples. *Journal of Behavioral Decision Making*, 26(3):213–224, 2013. doi: 10.1002/bdm.1753. URL <https://doi.org/10.1002/bdm.1753>.
- Goodrich, Michael A., and Schultz, Alan C. Human–robot interaction: A survey. *Foundations and Trends in Human–Computer Interaction*, 1(3):203–275, 2008. URL <http://doi.org/10.1561/1100000005>.
- Graether, Eberhard, and Mueller, Florian. Joggobot: A flying robot as jogging companion. In *CHI '12 Extended Abstracts on Human Factors in Computing Systems*, pages 1063–1066. Association for Computing Machinery, New York, 2012. ISBN 978-1-4503-1016-1. doi: 10.1145/2212776.2212386. URL <https://doi.org/10.1145/2212776.2212386>.
- Gray, Heather M., Gray, Kurt, and Wegner, Daniel M. Dimensions of mind perception. *Science*, 315(5812):619–619, 2007. ISSN 0036-8075. doi: 10.1126/science.1134475. URL <http://science.scienmag.org/content/315/5812/619>.
- Greenberg, Leslie S. Application of emotion in psychotherapy. In Lewis, Michael, Haviland-Jones, Jeanette M., and Feldman Barrett, Lisa, editors, *Handbook of Emotions*, volume 3, pages 88–101. Guilford Press, New York, 2008. ISBN 978-1-59385-650-2. URL <http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.472.7583&rep=rep1&type=pdf>.
- Gross, Horst-Michael, Boehme, Hans-Joachim, Schroeter, Christof, Müller, Steffen, König, Alexander, Einhorn, Erik, Martin, Christian, Merten, Matthias, and Bley, Andreas. TOOMAS: Interactive shopping guide robots in everyday use-final implementation and experiences from long-term field trials. In *IEEE/RSJ International Conference on Intelligent Robots and Systems*, pages 2005–2012. Institute of Electrical and Electronics Engineers, Piscataway, NJ, 2009. ISBN 978-1-4244-3803-7. doi: 10.1109/IROS.2009.5354497. URL <https://doi.org/10.1109/IROS.2009.5354497>.

- Gross, James J. Emotion regulation: Conceptual foundations. In Gross, James J., editor, *Handbook of Emotion Regulation*, pages 3–22. Guilford Press, New York, 2007. ISBN 978-1462520732. URL <http://worldcat.org/oclc/1027033463>.
- Guest, Greg, Namey, Emily, and Chen, Mario. A simple method to assess and report thematic saturation in qualitative research. *PloS One*, 15(5):e0232076, 2020. doi: 10.1371/journal.pone.0232076. URL <https://doi.org/10.1371/journal.pone.0232076>.
- Guidi, Stefano, Boor, Latisha, van der Bij, Laura, Foppen, Robin, Rikmenspoel, Okke, and Perugia, Giulia. Ambivalent stereotypes towards gendered robots: The (im) mutability of bias towards female and neutral robots. In *Social Robotics: 14th International Conference, ICSR 2022, Florence, Italy, December 13–16, 2022, Proceedings, Part II*, pages 615–626. Springer, Cham, Switzerland, 2023. doi: 10.1007/978-3-031-24670-8\_54. URL [https://doi.org/10.1007/978-3-031-24670-8\\_54](https://doi.org/10.1007/978-3-031-24670-8_54).
- Gunes, Hatice, Schuller, Björn, Pantic, Maja, and Cowie, Roddy. Emotion representation, analysis and synthesis in continuous space: A survey. In *IEEE International Conference on Automatic Face & Gesture Recognition and Workshops*, pages 827–834. Institute of Electrical and Electronics Engineers, Piscataway, NJ, 2011. ISBN 978-1-4244-9140-7. doi: 10.1109/FG.2011.5771357. URL <https://doi.org/10.1109/FG.2011.5771357>.
- Haegele, Martin. *World Robotics Service Robots*. IFR Statistical Department, Chicago, IL, 2016. ISBN 9783816306948. URL <http://worldcat.org/oclc/979905174>.
- Hall, Edward T. *The Silent Language*. Anchor Books, USA, 1990. URL <https://worldcat.org/oclc/21118399>.
- Hall, Edward T., Birdwhistell, Ray L., Bock, Bernhard, Bohannan, Paul, Diebold Jr., A. Richard, Durbin, Marshall, Edmonson, Munro S., Fischer, J. L., Hymes, Dell, Kimball, Solon T., et al. Proxemics [and comments and replies]. *Current Anthropology*, 9(2/3): 83–108, 1968. doi: 10.1086/200975. URL <https://doi.org/10.1086/200975>.
- Han, Jeonghye, Moore, Dylan, and Bae, Ilhan. Exploring the social proxemics of human–drone interaction. *International Journal of Advanced Smart Convergence*, 8(2):1–7, 2019. doi: 10.7236/IJASC.2019.8.2.1. URL <http://doi.org/10.7236/IJASC.2019.8.2.1>.
- Han, Kun, Yu, Dong, and Tashev, Ivan. Speech emotion recognition using deep neural network and extreme learning machine. In *15th Annual Conference of the International Speech Communication Association*, pages 223–227. International Speech Communication Association, 2014. URL [www.isca-speech.org/archive/interspeech\\_2014/han14\\_interspeech.html](http://www.isca-speech.org/archive/interspeech_2014/han14_interspeech.html).
- Hancock, Peter A., Billings, Deborah R., Schaefer, Kristin E., Chen, Jessie Y. C., De Visser, Ewart J., and Parasuraman, Raja. A meta-analysis of factors affecting trust in human-robot interaction. *Human Factors*, 53(5):517–527, 2011. doi: 10.1177/0018720811417254. URL <https://doi.org/10.1177/0018720811417254>.
- Hancock, Peter A., Kessler, Theresa T., Kaplan, Alexandra D., Brill, John C., and Szalma, James L. Evolving trust in robots: Specification through sequential and comparative meta-analyses. *Human Factors*, 63(7):1196–1229, 2021. doi: 10.1177/0018720820922080. URL <https://doi.org/10.1177/0018720820922080>.
- Hashimoto, Takuya, Verner, Igor M., and Kobayashi, Hiroshi. Human-like robot as teacher’s representative in a science lesson: An elementary school experiment. In Kim, Jong-Huan, Matson, Eric T., Myung, Hyun, and Xu, Peter, editors, *Robot Intelligence Technology and Applications*, volume 208 of *Advances in Intelligent Systems and Computing*, pages 775–786. Springer, Cham, Switzerland, 2013. doi: 10.1007/978-3-642-37374-9\_74. URL [https://doi.org/10.1007/978-3-642-37374-9\\_74](https://doi.org/10.1007/978-3-642-37374-9_74).
- Haslam, Nick. Dehumanization: An integrative review. *Personality and Social Psychology Review*, 10(3):252–264, 2006. doi: 10.1207/s15327957pspr1003\_4. URL [https://doi.org/10.1207/s15327957pspr1003\\_4](https://doi.org/10.1207/s15327957pspr1003_4).
- Haslam, Nick, and Loughnan, Steve. Dehumanization and infrahumanization. *Annual Review of Psychology*, 65(1):399–423, 2014. doi: 10.1146/annurev-psych-010213-115045. URL <https://doi.org/10.1146/annurev-psych-010213-115045>.

- Haslam, Nick, Loughnan, Stephen, Kashima, Yoshihisa, and Bain, Paul. Attributing and denying humanness to others. *European Review of Social Psychology*, 19(1):55–85, 2008. doi: 10.1080/10463280801981645. URL <https://doi.org/10.1080/10463280801981645>.
- Hassenzahl, Marc. The thing and I: understanding the relationship between user and product. In Blythe, Mark A., Overbeeke, Kees, Monk, Andrew F., and Wright, Peter C., editors, *Funology*, pages 31–42. Springer, New York, 2003. ISBN 978-1-4020-2967-7. doi: 10.1007/1-4020-2967-5\_4. URL [https://doi.org/10.1007/1-4020-2967-5\\_4](https://doi.org/10.1007/1-4020-2967-5_4).
- Hawkins, Andrew J., and Lawler, Richard. Tesla finally begins shipping “Full Self-Driving” beta version 9 after a long delay. *The Verge*, 2021. URL [www.theverge.com/2021/7/10/2570081/tesla-fsd-v9-beta-autopilot-update](http://www.theverge.com/2021/7/10/2570081/tesla-fsd-v9-beta-autopilot-update).
- Hayashi, Kotaro, Shiomi, Masahiro, Kanda, Takayuki, Hagita, Norihiro, and Robotics, AI. Friendly patrolling: A model of natural encounters. In Durrant-Whyte, Hugh, Roy, Nicholas, and Abbeel, Pieter, editors, *Robotics: Science and Systems, Volume II*, pages 121–129. MIT Press, Cambridge, MA, 2012. ISBN 978-0-262-51779-9. URL <http://worldcat.org/oclc/858018257>.
- Heerink, Marcel, Kroese, Ben, Evers, Vanessa, and Wielinga, Bob. Measuring acceptance of an assistive social robot: A suggested toolkit. In *RO-MAN 2009: The 18th IEEE International Symposium on Robot and Human Interactive Communication*, pages 528–533. Institute of Electrical and Electronics Engineers, Piscataway, NJ, 2009. doi: 10.1109/ROMAN.2009.5326320. URL <https://doi.org/10.1109/ROMAN.2009.5326320>.
- Heerink, Marcel, Kröse, Ben, Evers, Vanessa, and Wielinga, Bob. Assessing acceptance of assistive social agent technology by older adults: The Almere Model. *International Journal of Social Robotics*, 2(4):361–375, 2010. doi: 10.1007/s12369-010-0068-5. URL <https://psycnet.apa.org/doi/10.1007/s12369-010-0068-5>.
- Hegel, Frank, Muhl, Claudia, Wrede, Britta, Hielscher-Fastabend, Martina, and Sagerer, Gerhard. Understanding social robots. In *2009 Second International Conferences on Advances in Computer-Human Interactions*, pages 169–174. Institute of Electrical and Electronics Engineers, Piscataway, NJ, 2009. doi: 10.1109/ACHI.2009.51. URL <https://doi.org/10.1109/ACHI.2009.51>.
- Hegel, Frank, Eyssel, Friederike, and Wrede, Britta. The social robot “Flobi”: Key concepts of industrial design. In *19th International Symposium in Robot and Human Interactive Communication (RO-MAN)*, pages 107–112. Institute of Electrical and Electronics Engineers, Piscataway, NJ, 2010. doi: 10.1109/ROMAN.2010.5598691. URL <https://doi.org/10.1109/ROMAN.2010.5598691>.
- Heider, Fritz, and Simmel, Marianne. An experimental study of apparent behavior. *American Journal of Psychology*, 57(2):243–259, 1944. doi: 10.2307/1416950. URL <https://doi.org/10.2307/1416950>.
- Heldner, Mattias, and Edlund, Jens. Pauses, gaps and overlaps in conversations. *Journal of Phonetics*, 38(4):555–568, 2010. doi: 10.1016/j.wocn.2010.08.002. URL <https://doi.org/10.1016/j.wocn.2010.08.002>.
- Henschel, Anna, and Cross, Emily S. No evidence for enhanced likeability and social motivation towards robots after synchrony experience. *Interaction Studies*, 21(1):7–23, 2020. doi: 10.1075/is.19004.hen. URL <https://doi.org/10.1075/is.19004.hen>.
- Hjortsjö, Carl-Herman. *Man’s Face and Mimic Language*. Studen litteratur, Sweden, 1969. URL <http://worldcat.org/oclc/974134474>.
- Ho, Chin-Chang, and MacDorman, Karl F. Revisiting the uncanny valley theory: Developing and validating an alternative to the Godspeed indices. *Computers in Human Behavior*, 26(6):1508–1518, 2010. doi: 10.1016/j.chb.2010.05.015. URL <https://doi.org/10.1016/j.chb.2010.05.015>.
- Hoffman, Guy. Dumb robots, smart phones: A case study of music listening companionship. In *The 21st IEEE International Symposium on Robot and Human Interactive Communication*, pages 358–363. Institute of Electrical and Electronics Engineers, Piscataway, NJ, 2012. ISBN 978-1-4673-4604-7. doi: 10.1109/ROMAN.2012.6343779. URL <https://doi.org/10.1109/ROMAN.2012.6343779>.

- Hoffman, Guy. Anki, Jibo, and Kuri: What we can learn from social robots that didn't make it. *IEEE Spectrum*, 2019. URL <https://spectrum.ieee.org/anki-jibo-and-kuri-what-we-can-learn-from-social-robotics-failures>.
- Hoffman, Guy, and Breazeal, Cynthia. Effects of anticipatory action on human-robot teamwork efficiency, fluency, and perception of team. In *Proceedings of the ACM/IEEE International Conference on Human-Robot Interaction*, pages 1–8. Association for Computing Machinery, New York, 2007. ISBN 978-1-59593-617-2. doi: 10.1145/1228716.1228718. URL <https://doi.org/10.1145/1228716.1228718>.
- Hoffman, Guy, and Vanunu, Keinan. Effects of robotic companionship on music enjoyment and agent perception. In *8th ACM/IEEE International Conference on Human-Robot Interaction*, pages 317–324. Institute of Electrical and Electronics Engineers, Piscataway, NJ, 2013. ISBN 978-1-4673-3099-2. doi: 10.1109/HRI.2013.6483605. URL <https://doi.org/10.1109/HRI.2013.6483605>.
- Hoffman, Guy, and Weinberg, Gil. Shimon: An interactive improvisational robotic marimba player. In *CHI'10 Extended Abstracts on Human Factors in Computing Systems*, pages 3097–3102. Association for Computing Machinery, New York, 2010. ISBN 978-1-60558-930-5. doi: 10.1145/1753846.1753925. URL <https://doi.org/10.1145/1753846.1753925>.
- Hoffman, Guy, and Zhao, Xuan. A primer for conducting experiments in human–robot interaction. *ACM Transactions on Human-Robot Interaction (THRI)*, 10(1):1–31, 2020. doi: 10.1145/3412374. URL <https://doi.org/10.1145/3412374>.
- Holm, Olle. Analyses of longing: Origins, levels, and dimensions. *Journal of Psychology*, 133(6):621–630, 1999. doi: 10.1080/00223989909599768. URL <https://doi.org/10.1080/00223989909599768>.
- Hood, Deanna, Lemaignan, Séverin, and Dillenbourg, Pierre. When children teach a robot to write: An autonomous teachable humanoid which uses simulated handwriting. In *10th Annual ACM/IEEE International Conference on Human-Robot Interaction*, pages 83–90. Association for Computing Machinery, New York, 2015. ISBN 978-1-4503-2883-8. doi: 10.1145/2696454.2696479. URL <https://doi.org/10.1145/2696454.2696479>.
- Howard, Ayanna, and Borenstein, Jason. Hacking the human bias in robotics. *ACM Transactions on Human-Robot Interaction (THRI)*, 7(1):1–3, 2018. doi: 10.1145/3208974. URL <https://doi.org/10.1145/3208974>.
- Howard, Ayanna, and Kennedy III, Monroe. Robots are not immune to bias and injustice. *Science Robotics*, 5(48):eabf1364, 2020. doi: 10.1126/scirobotics.abf1364. URL <https://doi.org/10.1126/scirobotics.abf1364>.
- Hu, Siying, Yen, Hen Chen, Yu, Ziwei, Zhao, Mingjian, Seaborn, Katie, and Liu, Can. Wizundry: A cooperative Wizard of Oz platform for simulating future speech-based interfaces with multiple wizards. *Proceedings of the ACM on Human-Computer Interaction*, 7(CSCW1):1–34, 2023. doi: 10.1145/3579591. URL <https://doi.org/10.1145/3579591>.
- Huggins, Matthew, Alghowinem, Sharifa, Jeong, Sooyeon, Colon-Hernandez, Pedro, Breazeal, Cynthia, and Park, Hae Won. Practical guidelines for intent recognition: Bert with minimal training data evaluated in real-world HRI application. In *Proceedings of the 2021 ACM/IEEE International Conference on Human-Robot Interaction*, pages 341–350. Association for Computing Machinery, New York, 2021. URL <https://doi.org/10.1145/3434073.3444671>.
- Hunt, Andrew J., and Black, Alan W. Unit selection in a concatenative speech synthesis system using a large speech database. In *IEEE International Conference on Acoustics, Speech, and Signal Processing*, volume 1, pages 373–376. Institute of Electrical and Electronics Engineers, Piscataway, NJ, 1996. ISBN 0-7803-3192-3. doi: 10.1109/ICASSP.1996.541110. URL <https://doi.org/10.1109/ICASSP.1996.541110>.
- Hüttenrauch, Helge, Eklundh, Kerstin Severinson, Green, Anders, and Topp, Elin A. Investigating spatial relationships in human-robot interaction. In *IEEE/RSJ International Conference on Intelligent Robots and Systems*, pages 5052–5059. Institute of Electrical and Electronics Engineers, Piscataway, NJ, 2006. ISBN 1-4244-0258-1. doi: 10.1109/IROS.2006.282535. URL <https://doi.org/10.1109/IROS.2006.282535>.

- Hwang, Jinsoo, Kim, Heather, Joo, Kyu-Hyeon, and Lee, Won Seok. How to form rapport with information providers in the airport industry: Service robots versus human staff. *Asia Pacific Journal of Tourism Research*, 27(8):891–906, 2022. doi: 10.1080/10941665.2022.2131447. URL <https://doi.org/10.1080/10941665.2022.2131447>.
- Ibarz, Julian, Tan, Jie, Finn, Chelsea, Kalakrishnan, Mrinal, Pastor, Peter, and Levine, Sergey. How to train your robot with deep reinforcement learning: Lessons we have learned. *International Journal of Robotics Research*, 40(4–5):698–721, 2021. URL <https://doi.org/10.1177/0278364920987859>.
- Imai, Michita, Ono, Tetsuo, and Ishiguro, Hiroshi. Physical relation and expression: Joint attention for human-robot interaction. *IEEE Transactions on Industrial Electronics*, 50(4):636–643, 2003. doi: 10.1109/TIE.2003.814769. URL <https://doi.org/10.1109/TIE.2003.814769>.
- Inamura, Tetsunari, Mizuchi, Yoshiaki, and Yamada, Hiroki. VR platform enabling crowdsourcing of embodied HRI experiments—Case study of online robot competition. *Advanced Robotics*, 35(11):697–703, 2021. URL <https://doi.org/10.1080/01691864.2021.1928551>.
- Irfan, Bahar, Kennedy, James, Lemaignan, Séverin, Papadopoulos, Fotios, Senft, Emmanuel, and Belpaeime, Tony. Social psychology and human-robot interaction: An uneasy marriage. In *Companion of the 2018 ACM/IEEE International Conference on Human-Robot Interaction*, pages 13–20. Association for Computing Machinery, New York, 2018. ISBN 978-1-4503-5615-2. doi: 10.1145/3173386.3173389. URL <http://doi.acm.org/10.1145/3173386.3173389>.
- Ishiguro, Hiroshi. Android science. In Thrun, Sebastian, Rodney, Brooks, and Hugh, Durrant-Whyte, editors, *Robotics Research*, pages 118–127. Springer-Verlag, Berlin, 2007. ISBN 978-3-540-48110-2. doi: 10.1007/978-3-540-48113-3\_11. URL [https://doi.org/10.1007/978-3-540-48113-3\\_11](https://doi.org/10.1007/978-3-540-48113-3_11).
- Ishiguro, Hiroshi, and Dalla Libera, Fabio. *Geminoid Studies: Science and Technologies for Humanlike Teleoperated Androids*. Springer Nature, Singapore, 2018.
- Jia, He Michael, Park, C. Whan, and Pol, Gratiana. Cuteness, nurturance, and implications for visual product design. In Batra, Rajeev, Seifert, Colleen M., and Brei, Diann, editors, *The Psychology of Design*, pages 168–179. Routledge, Milton Park, Abingdon, Oxfordshire, UK, 2015. ISBN 9781317502104. URL [www.worldcat.org/title/914472421](http://www.worldcat.org/title/914472421).
- Johal, Wafa, Gatos, Doga, Yantac, Asim Evren, and Obaid, Mohammad. Envisioning social drones in education. *Frontiers in Robotics and AI*, 9:666736, 2022. doi: 10.3389/frobt.2022.666736. URL <https://doi.org/10.3389/frobt.2022.666736>.
- John, Oliver P., and Srivastava, Sanjay. The Big Five trait taxonomy: History, measurement, and theoretical perspectives. In Pervin, Lawrence A., and John, Oliver P., editors, *Handbook of Personality: Theory and Research*, pages 102–138. Guilford Press, New York, 2nd edition, 1999. ISBN 9781572306950. URL [www.worldcat.org/title/1229125792](http://www.worldcat.org/title/1229125792).
- Johnson, Michelle Jillian, Rai, Roshan, Barathi, Sarath, Mendonca, Rochelle, and Bustamante-Valles, Karla. Affordable stroke therapy in high-, low- and middle-income countries: From Theradrive to Rehab CARES, a compact robot gym. *Journal of Rehabilitation and Assistive Technologies Engineering*, 4:2055668317708732, 2017. doi: 10.1177/2055668317708732. URL <https://doi.org/10.1177/2055668317708732>.
- Jonze, dir., Spike. *Her*. Warner Bros., Burbank, CA, 2013. URL [www.imdb.com/title/tt1798709/?ref\\_=fn\\_al\\_tt\\_1](http://www.imdb.com/title/tt1798709/?ref_=fn_al_tt_1).
- Joormann, Jutta, and Gotlib, Ian H. Emotion regulation in depression: Relation to cognitive inhibition. *Cognition and Emotion*, 24(2):281–298, 2010. doi: 10.1080/02699930903407948. URL <https://doi.org/10.1080/02699930903407948>.
- Jung, Malte, and Hinds, Pamela. Robots in the wild: A time for more robust theories of human-robot interaction. *ACM Transactions on Human-Robot Interaction (THRI)*, 7(1):2, 2018. doi: 10.1145/3208975. URL <https://doi.org/10.1145/3208975>.
- Jung, Malte F., Martelaro, Nikolas, and Hinds, Pamela J. Using robots to moderate team conflict: The case of repairing violations. In *Proceedings of the Tenth Annual ACM/IEEE International Conference on Human-Robot Interaction*, pages 229–236. Association for

- Computing Machinery, New York, 2015. doi: 10.1145/2696454.2696460. URL <https://doi.org/10.1145/2696454.2696460>.
- Jung, Minjoo, Lazaro, May Jorella S, and Yun, Myung Hwan. Evaluation of methodologies and measures on the usability of social robots: A systematic review. *Applied Sciences*, 11(4):1388, 2021. doi: 10.3390/app11041388. URL <https://doi.org/10.3390/app11041388>.
- Kahn, Peter H., Freier, Nathan G., Kanda, Takayuki, Ishiguro, Hiroshi, Ruckert, Jolina H., Severson, Rachel L., and Kane, Shaun K. Design patterns for sociality in human-robot interaction. In *The 3rd ACM/IEEE International Conference on Human-Robot Interaction*, pages 97–104. Association for Computing Machinery, New York, 2008. ISBN 978-1-60558-017-3. doi: 10.1145/1349822.1349836. URL <https://doi.org/10.1145/1349822.1349836>.
- Kahn, Peter H., Kanda, Takayuki, Ishiguro, Hiroshi, Gill, Brian T., Ruckert, Jolina H., Shen, Solace, Gary, Heather E., Reichert, Aimee L., Freier, Nathan G., and Severson, Rachel L. Do people hold a humanoid robot morally accountable for the harm it causes? In *Proceedings of the 7th Annual ACM/IEEE International Conference on Human-Robot Interaction*, pages 33–40. Association for Computing Machinery, New York, 2012. ISBN 978-1-4503-1063-5. doi: 10.1145/2157689.2157696. URL <https://doi.org/10.1145/2157689.2157696>.
- Kahn, Peter H., Kanda, Takayuki, Ishiguro, Hiroshi, Shen, Solace, Gary, Heather E., and Ruckert, Jolina H. Creative collaboration with a social robot. In *ACM International Joint Conference on Pervasive and Ubiquitous Computing*, pages 99–103. Association for Computing Machinery, New York, 2014. ISBN 978-1-4503-2968-2. doi: 10.1145/2632048.2632058. URL <https://doi.org/10.1145/2632048.2632058>.
- Kahneman, Daniel. *Thinking, Fast and Slow*. Macmillan, New York, 2011. ISBN 978-0374533557. URL <https://worldcat.org/en/title/706020998>.
- Kamino, Waki, and Šabanović, Selma. Coffee, tea, robots? The performative staging of service robots in “Robot Cafes” in Japan. In *Proceedings of the 2023 ACM/IEEE International Conference on Human-Robot Interaction*, pages 183–191. Association for Computing Machinery, New York, 2023. doi: 10.1145/3568162.3576967. URL <https://doi.org/10.1145/3568162.3576967>.
- Kanda, Takayuki, Hirano, Takayuki, Eaton, Daniel, and Ishiguro, Hiroshi. Interactive robots as social partners and peer tutors for children: A field trial. *Human-Computer Interaction*, 19(1):61–84, 2004. doi: 10.1080/07370024.2004.9667340. URL <https://doi.org/10.1080/07370024.2004.9667340>.
- Kanda, Takayuki, Kamasima, Masayuki, Imai, Michita, Ono, Tetsuo, Sakamoto, Daisuke, Ishiguro, Hiroshi, and Anzai, Yuichiro. A humanoid robot that pretends to listen to route guidance from a human. *Autonomous Robots*, 22(1):87–100, 2007a. doi: 10.1007/s10514-006-9007-6. URL <https://doi.org/10.1007/s10514-006-9007-6>.
- Kanda, Takayuki, Sato, Rumi, Saiwaki, Naoki, and Ishiguro, Hiroshi. A two-month field trial in an elementary school for long-term human-robot interaction. *IEEE Transactions on Robotics*, 23(5):962–971, 2007b. doi: 10.1109/TRO.2007.904904. URL <https://doi.org/10.1109/TRO.2007.904904>.
- Kanda, Takayuki, Shiomi, Masahiro, Miyashita, Zenta, Ishiguro, Hiroshi, and Hagita, Norihiro. A communication robot in a shopping mall. *IEEE Transactions on Robotics*, 26(5):897–913, 2010. doi: 10.1109/TRO.2010.2062550. URL <https://doi.org/10.1109/TRO.2010.2062550>.
- Kaneko, Kenji, Kanehiro, Fumio, Kajita, Shuuji, Hirukawa, Hirohisa, Kawasaki, T., Hirata, M., Akachi, Kazuhiko, and Isozumi, Takakatsu. Humanoid robot HRP-2. In *IEEE International Conference on Robotics and Automation*, volume 2, pages 1083–1090, 2004. doi: 10.1109/ROBOT.2004.1307969. URL <https://doi.org/10.1109/ROBOT.2004.1307969>.
- Kaneshige, Yuya, Satake, Satoru, Kanda, Takayuki, and Imai, Michita. How to overcome the difficulties in programming and debugging mobile social robots? In *Proceedings of the 2021 ACM/IEEE International Conference on Human-Robot Interaction*, pages 361–369. Association for Computing Machinery, New York, 2021. URL <https://doi.org/10.1145/3434073.3444674>.

- Kang, Kyong Il, Freedman, Sanford, Mataric, Maja J., Cunningham, Mark J., and Lopez, Becky. A hands-off physical therapy assistance robot for cardiac patients. In *9th International Conference on Rehabilitation Robotics (ICORR)*, pages 337–340. Institute of Electrical and Electronics Engineers, Piscataway, NJ, 2005. ISBN 0-7803-9003-2. doi: 10.1109/ICORR.2005.1501114. URL <https://doi.org/10.1109/ICORR.2005.1501114>.
- Kaplan, Alexandra, Kessler, Theresa, Brill, Christopher, and Hancock, P. A. Trust in Artificial Intelligence: Meta-analytic findings. *Human Factors*, 65(2):337–359, 2021. doi: 10.1177/00187208211013988. URL <https://doi.org/10.1177/00187208211013988>.
- Kaplan, Frederic. Who is afraid of the humanoid? Investigating cultural differences in the acceptance of robots. *International Journal of Humanoid Robotics*, 1(3):1–16, 2004. doi: 10.1142/S0219843604000289. URL <https://doi.org/10.1142/S0219843604000289>.
- Kaptelinin, Victor. Technology and the givens of existence: Toward an existential inquiry framework in HCI research. In *Proceedings of the 2018 CHI Conference on Human Factors in Computing Systems*, pages 270:1–270:14. Association for Computing Machinery, New York, 2018. ISBN 978-1-4503-5620-6. doi: 10.1145/3173574.3173844. URL <http://doi.acm.org/10.1145/3173574.3173844>.
- Karim, Raida, Zhang, Yufei, Alves-Oliveira, Patrícia, Björling, Elin A., and Cakmak, Maya. Community-based data visualization for mental well-being with a social robot. In *2022 17th ACM/IEEE International Conference on Human-Robot Interaction (HRI)*, pages 839–843. Institute of Electrical and Electronics Engineers, Piscataway, NJ, 2022. doi: 10.1109/HRI5351.2022.9889415. URL <https://doi.org/10.1109/HRI5351.2022.9889415>.
- Kato, Yusuke, Kanda, Takayuki, and Ishiguro, Hiroshi. May I help you? Design of human-like polite approaching behavior. In *10th Annual ACM/IEEE International Conference on Human-Robot Interaction*, pages 35–42. Association for Computing Machinery, New York, 2015. ISBN 978-1-4503-2883-8. doi: 10.1145/2696454.2696463. URL <https://doi.org/10.1145/2696454.2696463>.
- Kätsyri, Jari, Förger, Klaus, Mäkäräinen, Meeri, and Takala, Tapio. A review of empirical evidence on different uncanny valley hypotheses: Support for perceptual mismatch as one road to the valley of eeriness. *Frontiers in Psychology*, 6:390, 2015. doi: 10.3389/fpsyg.2015.00390. URL <https://doi.org/10.3389/fpsyg.2015.00390>.
- Keijser, Merel, Bartneck, Christoph, and Eyssel, Friederike. What's to bullying a bot? Correlates between chatbot humanlikeness and abuse. *Interaction Studies*, 22(1):55–80, 2021. doi: 10.1075/is.20002.kei. URL <https://doi.org/10.1075/is.20002.kei>.
- Keltner, Dacher, and Kring, Ann M. Emotion, social function, and psychopathology. *Review of General Psychology*, 2(3):320–342, 1998. doi: 10.1037/1089-2680.2.3.320. URL <https://doi.org/10.1037/1089-2680.2.3.320>.
- Kemper, Theodore D. How many emotions are there? Wedding the social and the autonomic components. *American Journal of Sociology*, 93(2):263–289, 1987. doi: 10.1086/228745. URL <https://doi.org/10.1086/228745>.
- Kendon, Adam. *Conducting Interaction: Patterns of Behavior in Focused Encounters*. Cambridge University Press, Cambridge, 1990. ISBN 978-0521389389. URL <http://worldcat.org/oclc/785489376>.
- Kennedy, James, Baxter, Paul, and Belpaeime, Tony. The robot who tried too hard: Social behaviour of a robot tutor can negatively affect child learning. In *10th Annual ACM/IEEE International Conference on Human-Robot Interaction*, pages 67–74. Association for Computing Machinery, New York, 2015. ISBN 978-1-4503-2883-8. doi: 10.1145/2696454.2696457. URL <https://doi.org/10.1145/2696454.2696457>.
- Kennedy, James, Lemaignan, Séverin, Montassier, Caroline, Lavalade, Pauline, Irfan, Bahar, Papadopoulos, Fotios, Senft, Emmanuel, and Belpaeime, Tony. Child speech recognition in human-robot interaction: Evaluations and recommendations. In *Proceedings of the ACM/IEEE International Conference on Human-Robot Interaction*, pages 82–90. Association for Computing Machinery, New York, 2017. ISBN 978-1-4503-4336-7. doi: 10.1145/2909824.3020229. URL <https://doi.org/10.1145/2909824.3020229>.

- Kessler, Theresa T., Larios, Cintya, Walker, Tiffani, Yerdon, Valarie, and Hancock, P. A. A comparison of trust measures in human–robot interaction scenarios. In *Advances in Human Factors in Robots and Unmanned Systems*, pages 353–364. Springer Nature, Cham, Switzerland, 2017. doi: 10.1007/978-3-319-41959-6\_29. URL [https://doi.org/10.1007/978-3-319-41959-6\\_29](https://doi.org/10.1007/978-3-319-41959-6_29).
- Kidd, Cory D., and Breazeal, Cynthia. A robotic weight loss coach. In *Proceedings of the 22nd National Conference on Artificial Intelligence—Volume 2*, pages 1985–1986. AAAI Press, Washington, DC, 2007. ISBN 978-1-57735-323-2. URL <http://dl.acm.org/citation.cfm?id=1619797.1619992>.
- Kidd, Cory D., and Breazeal, Cynthia. Robots at home: Understanding long-term human–robot interaction. In *IEEE/RSJ International Conference on Intelligent Robots and Systems*, pages 3230–3235. Institute of Electrical and Electronics Engineers, Piscataway, NJ, 2008. ISBN 978-1-4244-2057-5. doi: 10.1109/IROS.2008.4651113. URL <https://doi.org/10.1109/IROS.2008.4651113>.
- Kiesler, Sara, Powers, Aaron, Fussell, Susan R., and Torrey, Cristen. Anthropomorphic interactions with a robot and robot-like agent. *Social Cognition*, 26(2):169–181, 2008. doi: 10.1521/soco.2008.26.2.169. URL <https://doi.org/10.1521/soco.2008.26.2.169>.
- Kim, Ki Joon, Park, Eunil, and Sundar, S. Shyam. Caregiving role in human–robot interaction: A study of the mediating effects of perceived benefit and social presence. *Computers in Human Behavior*, 29(4):1799–1806, 2013. doi: 10.1016/j.chb.2013.02.009. URL <https://doi.org/10.1016/j.chb.2013.02.009>.
- Kirmeyer, Sandra L., and Lin, Thung-Rung. Social support: Its relationship to observed communication with peers and superiors. *Academy of Management Journal*, 30(1):138–151, 1987. doi: 10.5465/255900. URL <https://doi.org/10.5465/255900>.
- Kitano, Naho. “Rinri”: An incitement towards the existence of robots in Japanese society. *International Review of Information Ethics*, 6(12/2):78–83, 2006. URL [http://i-r-i-e.net/i-nhlt/006/006\\_Kitano.pdf](http://i-r-i-e.net/i-nhlt/006/006_Kitano.pdf).
- Klassner, Frank. A case study of LEGO Mindstorms suitability for artificial intelligence and robotics courses at the college level. *SIGCSE Bulletin*, 34(1):8–12, February 2002. ISSN 0097-8418. doi: 10.1145/563517.563345. URL <http://doi.acm.org/10.1145/563517.563345>.
- Koay, Kheng Lee, Sisbot, Emrah Akin, Syrdal, Dag Sverre, Walters, Mick L., Dautenhahn, Kerstin, and Alami, Rachid. Exploratory study of a robot approaching a person in the context of handing over an object. In *AAAI Spring Symposium: Multidisciplinary Collaboration for Socially Assistive Robotics*, pages 18–24. AAAI Press, Washington, DC, 2007a. URL <http://aaai.org/Papers/Symposia/Spring/2007/SS-07-07/SS07-07-004.pdf>.
- Koay, Kheng Lee, Syrdal, Dag Sverre, Walters, Michael L., and Dautenhahn, Kerstin. Living with robots: Investigating the habituation effect in participants’ preferences during a longitudinal human–robot interaction study. In *The 16th IEEE International Symposium on Robot and Human Interactive Communication*, pages 564–569. Institute of Electrical and Electronics Engineers, Piscataway, NJ, 2007b. ISBN 978-1-4244-1634-9. doi: 10.1109/ROMAN.2007.4415149. URL <https://doi.org/10.1109/ROMAN.2007.4415149>.
- Koike, Mayu, and Loughnan, Steve. Virtual relationships: Anthropomorphism in the digital age. *Social and Personality Psychology Compass*, 15(6):e12603, 2021. doi: 10.1111/spc3.12603. URL <https://doi.org/10.1111/spc3.12603>.
- Koike, Mayu, Loughnan, Steve, and Stanton, Sarah C. E. Virtually in love: The role of anthropomorphism in virtual romantic relationships. *British Journal of Social Psychology*, 62(1):600–616, 2022. doi: 10.1111/bjso.12564. URL <https://doi.org/10.1111/bjso.12564>.
- Kollar, Thomas, Tellex, Stefanie, Roy, Deb, and Roy, Nicholas. Toward understanding natural language directions. In *5th ACM/IEEE International Conference on Human-Robot Interaction*, pages 259–266. Institute of Electrical and Electronics Engineers, Piscataway, NJ, 2010. ISBN 978-1-4244-4892-0. doi: 10.1109/HRI.2010.5453186. URL <https://doi.org/10.1109/HRI.2010.5453186>.

- Koo, Jeamin, Kwac, Jungsuk, Ju, Wendy, Steinert, Martin, Leifer, Larry, and Nass, Clifford. Why did my car just do that? Explaining semi-autonomous driving actions to improve driver understanding, trust, and performance. *International Journal on Interactive Design and Manufacturing (IJIDeM)*, 9(4):269–275, 2015. doi: 10.1007/s12008-014-0227-2. URL <https://doi.org/10.1007/s12008-014-0227-2>.
- Kopp, Stefan, Krenn, Brigitte, Marsella, Stacy, Marshall, Andrew N., Pelachaud, Catherine, Pirker, Hannes, Thórisson, Kristinn R., and Vilhjálsson, Hannes. Towards a common framework for multimodal generation: The behavior markup language. In *International Workshop on Intelligent Virtual Agents*, pages 205–217. Springer, Berlin, 2006. ISBN 978-3-540-37593-7. doi: 10.1007/11821830\_17. URL [https://doi.org/10.1007/11821830\\_17](https://doi.org/10.1007/11821830_17).
- Kozima, Hideki, Michalowski, Marek P., and Nakagawa, Cocoro. Keepon. *International Journal of Social Robotics*, 1(1):3–18, 2009. doi: 10.1007/s12369-008-0009-8. URL <https://doi.org/10.1007/s12369-008-0009-8>.
- Krausman, Andrea, Neubauer, Catherine, Forster, Daniel, Lakhmani, Shan, Baker, Anthony L., Fitzhugh, Sean M., Gremillion, Gregory, Wright, Julia L., Metcalfe, Jason S., and Schaefer, Kristin E. Trust measurement in human-autonomy teams: Development of a conceptual toolkit. *ACM Transactions on Human-Robot Interaction*, 11(3):1–58, 2022. doi: 10.1145/3530874. URL <https://doi.org/10.1145/3530874>.
- Kriz, Sarah, Anderson, Gregory, and Trafton, J. Gregory. Robot-directed speech: Using language to assess first-time users' conceptualizations of a robot. In *5th ACM/IEEE International Conference on Human-Robot Interaction (HRI)*, pages 267–274. Association for Computing Machinery, New York, 2010. doi: 10.1109/HRI.2010.5453187. URL <https://doi.org/10.1109/HRI.2010.5453187>.
- Kruse, Thibault, Pandey, Amit Kumar, Alami, Rachid, and Kirsch, Alexandra. Human-aware robot navigation: A survey. *Robotics and Autonomous Systems*, 61(12):1726–1743, 2013. doi: 10.1016/j.robot.2013.05.007. URL <https://doi.org/10.1016/j.robot.2013.05.007>.
- Ku, Hyunjin, Choi, Jason J, Lee, Soomin, Jang, Sunho, and Do, Wonkyung. Designing shelly, a robot capable of assessing and restraining children's robot abusing behaviors. In *Companion of the 13th ACM/IEEE International Conference on Human-Robot Interaction (HRI)*, pages 161–162. Association for Computing Machinery, New York, 2018. doi: 10.1145/3173386.3176973. URL <https://doi.org/10.1145/3173386.3176973>.
- Kubota, Tomonori, Ogawa, Kohei, Yoshikawa, Yuichiro, and Ishiguro, Hiroshi. Alignment of the attitude of teleoperators with that of a semi-autonomous android. *Scientific Reports*, 12(1):1–12, 2022. doi: 10.1038/s41598-022-13829-3. URL <https://doi.org/10.1038/s41598-022-13829-3>.
- Kuchenbrandt, Dieta, Riether, Nina, and Eyssel, Friederike. Does anthropomorphism reduce stress in HRI? In *Proceedings of the 2014 ACM/IEEE International Conference on Human-Robot Interaction*, pages 218–219. Association for Computing Machinery, New York, 2014. ISBN 978-1-4503-2658-2. doi: 10.1145/2559636.2563710. URL <http://doi.org/10.1145/2559636.2563710>.
- Kuhn, Thomas S. *The Structure of Scientific Revolutions*. University of Chicago Press, Chicago, 2nd edition, 1970. ISBN 0226458032. URL <http://worldcat.org/oclc/468581998>.
- Kulic, Dana, and Croft, Elizabeth A. Safe planning for human-robot interaction. *Journal of Field Robotics*, 22(7):383–396, 2005. doi: 10.1002/rob.20073. URL <https://doi.org/10.1002/rob.20073>.
- Kulms, Philipp, and Kopp, Stefan. More human-likeness, more trust? The effect of anthropomorphism on self-reported and behavioral trust in continued and interdependent human-agent cooperation. In Alt, Florian, Bulling, Andreas, and Döring, Tanja, editors, *Proceedings of Mensch und Computer 2019*, pages 31–42. Association for Computing Machinery, New York, 2019. doi: 10.1145/3340764.3340793. URL <https://doi.org/10.1145/3340764.3340793>.
- Kuzuoka, Hideaki, Suzuki, Yuya, Yamashita, Jun, and Yamazaki, Keiichi. Reconfiguring spatial formation arrangement by robot body orientation. In *5th ACM/IEEE International*

- Conference on Human-Robot Interaction*, pages 285–292. Institute of Electrical and Electronics Engineers, Piscataway, NJ, 2010. ISBN 978-1-4244-4892-0. doi: 10.1109/HRI.2010.5453182. URL <https://doi.org/10.1109/HRI.2010.5453182>.
- Lang, Peter J., Bradley, Margaret M., and Cuthbert, Bruce N. Motivated attention: Affect, activation, and action. In Lang, Peter J., Simons, Robert F., Balaban, Marie, and Simons, Robert, editors, *Attention and Orienting: Sensory and Motivational Processes*, pages 97–135. Erlbaum, Hillsdale, NJ, 1997. ISBN 9781135808204. URL <http://worldcat.org/oclc/949987355>.
- Lara, Juan S., Casas, Jonathan, Aguirre, Andres, Munera, Marcela, Rincon-Roncancio, Monica, Irfan, Bahar, Senft, Emmanuel, Belpaeime, Tony, and Cifuentes, Carlos A. Human-robot sensor interface for cardiac rehabilitation. In *International Conference on Rehabilitation Robotics (ICORR)*, pages 1013–1018. Institute of Electrical and Electronics Engineers, Piscataway, NJ, 2017. ISBN 978-1-5386-2296-4. doi: 10.1109/ICORR.2017.8009382. URL <https://doi.org/10.1109/ICORR.2017.8009382>.
- Large, David R., Harrington, Kyle, Burnett, Gary, Luton, Jacob, Thomas, Peter, and Bennett, Pete. To please in a pod: Employing an anthropomorphic agent-interlocutor to enhance trust and user experience in an autonomous, self-driving vehicle. In *Proceedings of the 11th International Conference on Automotive User Interfaces and Interactive Vehicular Applications*, pages 49–59. Association for Computing Machinery, New York, 2019. doi: 10.1145/3342197.3344545. URL <https://doi.org/10.1145/3342197.3344545>.
- Larsen, Randy J., and Diener, Edward. Promises and problems with the circumplex model of emotion. In Clark, Margaret S., editor, *Emotion: The Review of Personality and Social Psychology*, volume 13, pages 25–59. SAGE Publications, Thousand Oaks, CA, 1992. ISBN 978-0803946149. URL <http://worldcat.org/oclc/180631851>.
- Law, Theresa, Chita-Tegmark, Meia, Rabb, Nicholas, and Scheutz, Matthias. Examining attachment to robots: Benefits, challenges, and alternatives. *ACM Transactions on Human-Robot Interaction (THRI)*, 11(4):1–18, 2022. doi: 10.1145/3526105. URL <https://doi.org/10.1145/3526105>.
- Layton, Roslyn. The grain of truth in the critique of Musk, Tesla and Full Self Driving (FSD). *Forbes*, 2022. URL [www.forbes.com/sites/roslynlayton/2022/01/28/the-grain-of-truth-in-the-critique-of-musk-tesla-and-full-self-driving-fsd/?sh=336663d454b7](http://www.forbes.com/sites/roslynlayton/2022/01/28/the-grain-of-truth-in-the-critique-of-musk-tesla-and-full-self-driving-fsd/?sh=336663d454b7).
- Lazarus, Richard S. *Emotion and Adaptation*. Oxford University Press on Demand, 1991. ISBN 978-0195092660. URL <http://worldcat.org/oclc/298419692>.
- LeCun, Yann, Bengio, Yoshua, and Hinton, Geoffrey. Deep learning. *Nature*, 521(7553):436, 2015. doi: 10.1038/nature14539. URL <https://doi.org/10.1038/nature14539>.
- Lee, Hee Rin, Sung, JaYoung, Šabanović, Selma, and Han, Joenghye. Cultural design of domestic robots: A study of user expectations in Korea and the United States. In *IEEE International Workshop on Robot and Human Interactive Communication*, pages 803–808. Institute of Electrical and Electronics Engineers, Piscataway, NJ, 2012. ISBN 978-1-4673-4604-7. doi: 10.1109/ROMAN.2012.6343850. URL <https://doi.org/10.1109/ROMAN.2012.6343850>.
- Lee, Hee Rin, Šabanović, Selma, Chang, Wan-Ling, Nagata, Shinichi, Piatt, Jennifer, Bennett, Casey, and Hakken, David. Steps toward participatory design of social robots: Mutual learning with older adults with depression. In *ACM/IEEE International Conference on Human-Robot Interaction*, pages 244–253. Association for Computing Machinery, New York, 2017. ISBN 978-1-4503-4336-7. doi: 10.1145/2909824.3020237. URL <https://doi.org/10.1145/2909824.3020237>.
- Lee, John D., and See, Katrina A. Trust in automation: Designing for appropriate reliance. *Human Factors*, 46(1):50–80, 2004. doi: 10.1518/hfes.46.1.50\_30392. URL [https://doi.org/10.1518/hfes.46.1.50\\_30392](https://doi.org/10.1518/hfes.46.1.50_30392).
- Lee, Min Kyung, Forlizzi, Jodi, Rybski, Paul E., Crabbe, Frederick, Chung, Wayne, Finkle, Josh, Glaser, Eric, and Kiesler, Sara. The Snackbot: Documenting the design of a robot for long-term human-robot interaction. In *Proceedings of the ACM/IEEE International Conference on Human-Robot Interaction*, pages 7–14. Association for Computing Machinery,

- New York, 2009. ISBN 978-1-60558-404-1. doi: 10.1145/1514095.1514100. URL <https://doi.org/10.1145/1514095.1514100>.
- Lee, Sau-lai, Lau, Ivy Yee-man, Kiesler, Sara, and Chiu, Chi-Yue. Human mental models of humanoid robots. In *IEEE International Conference on Robotics and Automation*, pages 2767–2772. Institute of Electrical and Electronics Engineers, Piscataway, NJ, 2005. ISBN 0-7803-8914-X. doi: 10.1109/ROBOT.2005.1570532. URL <https://doi.org/10.1109/ROBOT.2005.1570532>.
- Lehmann, Hagen, Saez-Pons, Joan, Syrdal, Dag Sverre, and Dautenhahn, Kerstin. In good company? Perception of movement synchrony of a non-anthropomorphic robot. *PloS One*, 10(5):e0127747, 2015. doi: 10.1371/journal.pone.0127747. URL <https://doi.org/10.1371/journal.pone.0127747>.
- Leite, Iolanda, Castellano, Ginevra, Pereira, André, Martinho, Carlos, and Paiva, Ana. Modelling empathic behaviour in a robotic game companion for children: An ethnographic study in real-world settings. In *Proceedings of the 7th Annual ACM/IEEE International Conference on Human-Robot Interaction*, HRI '12, pages 367–374, New York, 2012. Association for Computing Machinery, New York. ISBN 978-1-4503-1063-5. doi: 10.1145/2157689.2157811. URL <https://doi.org/10.1145/2157689.2157811>.
- Leite, Iolanda, Martinho, Carlos, and Paiva, Ana. Social robots for long-term interaction: A survey. *International Journal of Social Robotics*, 5(2):291–308, 2013. doi: 10.1007/s12369-013-0178-y. URL <https://doi.org/10.1007/s12369-013-0178-y>.
- Leite, Iolanda, McCoy, Marissa, Lohani, Monika, Ullman, Daniel, Salomons, Nicole, Stokes, Charlene, Rivers, Susan, and Scassellati, Brian. Emotional storytelling in the classroom: Individual versus group interaction between children and robots. In *Proceedings of the 10th Annual ACM/IEEE International Conference on Human-Robot Interaction*, pages 75–82. Association for Computing Machinery, New York, 2015. ISBN 978-1-4503-2883-8. doi: 10.1145/2696454.2696481. URL <https://doi.org/10.1145/2696454.2696481>.
- Lemaignan, Séverin, Fink, Julia, and Dillenbourg, Pierre. The dynamics of anthropomorphism in robotics. In *2014 9th ACM/IEEE International Conference on Human-Robot Interaction (HRI)*, pages 226–227. Institute of Electrical and Electronics Engineers, Piscataway, NJ, 2014a. doi: 10.1145/2559636.2559814. URL <http://doi.org/10.1145/2559636.2559814>.
- Lemaignan, Séverin, Fink, Julia, Dillenbourg, Pierre, and Braboszcz, Claire. The cognitive correlates of anthropomorphism. In *2014 Human-Robot Interaction Conference, HRI: A Bridge between Robotics and Neuroscience Workshop*. Institute of Electrical and Electronics Engineers, Piscataway, NJ, 2014b. doi: 10.1007/s12369-014-0263-x. URL <https://doi.org/10.1007/s12369-014-0263-x>.
- Lemaignan, Séverin, Hanheide, Marc, Karg, Michael, Khambaita, Harmish, Kunze, Lars, Lier, Florian, Lütkebohle, Ingo, and Milliez, Grégoire. Simulation and HRI recent perspectives with the morse simulator. In Brugali, Davide, Broenink, Jan F., Kroeger, Torsten, and MacDonald, Bruce A., editors, *Simulation, Modeling, and Programming for Autonomous Robots*, pages 13–24. Springer International, Cham, Switzerland, 2014c. ISBN 978-3-319-11900-7. doi: 10.1007/978-3-319-11900-7\_2. URL [https://doi.org/10.1007/978-3-319-11900-7\\_2](https://doi.org/10.1007/978-3-319-11900-7_2).
- Lemaignan, Séverin, Hanheide, Marc, Karg, Michael, Khambaita, Harmish, Kunze, Lars, Lier, Florian, Lütkebohle, Ingo, and Milliez, Grégoire. Simulation and HRI: Recent perspectives with the MORSE simulator. In Brugali, Davide, Broenink, Jan, Kroeger, Torsten, and MacDonald, Bruce, editors, *Simulation, Modeling, and Programming for Autonomous Robots: 4th International Conference, SIMPAR 2014, Bergamo, Italy, October 20–23, 2014. Proceedings 4*, pages 13–24. Springer, Cham, Switzerland, 2014d. doi: 10.1007/978-3-319-11900-7\_2. URL [https://doi.org/10.1007/978-3-319-11900-7\\_2](https://doi.org/10.1007/978-3-319-11900-7_2).
- Lemaignan, Séverin, Warnier, Mathieu, Sisbot, E. Akin, Clodic, Aurélie, and Alami, Rachid. Artificial cognition for social human-robot interaction: An implementation. *Artificial Intelligence*, 247:45–69, 2017. ISSN 0004-3702. doi: 10.1016/j.artint.2016.07.002. URL <http://doi.org/10.1016/j.artint.2016.07.002>.

- Lenat, Douglas B. CYC: A large-scale investment in knowledge infrastructure. *Communications of the ACM*, 38(11):33–38, 1995. doi: 10.1145/219717.219745. URL <https://doi.org/10.1145/219717.219745>.
- Lewis, Michael, Wang, Jijun, and Hughes, Stephen. Usarsim: Simulation for the study of human-robot interaction. *Journal of Cognitive Engineering and Decision Making*, 1(1):98–120, 2007. doi: 10.1177/155534340700100105. URL <https://doi.org/10.1177/155534340700100105>.
- Leyens, Jacques-Philippe. Retrospective and prospective thoughts about infrahumanization. *Group Processes & Intergroup Relations*, 12(6):807–817, 2009. doi: 10.1177/1368430209347330. URL <https://doi.org/10.1177/1368430209347330>.
- Leyens, Jacques-Philippe, Paladino, Paola M, Rodriguez-Torres, Ramon, Vaes, Jeroen, Demoulin, Stephanie, Rodriguez-Perez, Armando, and Gaunt, Ruth. The emotional side of prejudice: The attribution of secondary emotions to ingroups and outgroups. *Personality and Social Psychology Review*, 4(2):186–197, 2000. doi: 10.1207/S15327957PSPR0402\_06. URL [https://doi.org/10.1207/S15327957PSPR0402\\_06](https://doi.org/10.1207/S15327957PSPR0402_06).
- Leyzberg, Daniel, Spaulding, Samuel, Toneva, Mariya, and Scassellati, Brian. The physical presence of a robot tutor increases cognitive learning gains. In *Proceedings of the Cognitive Science Society*, pages 1882–1887. Cognitive Science Society, Seattle, WA, 2012. URL <https://escholarship.org/uc/item/7ck0p200>.
- Li, Fuan, and Betts, Stephen C. Trust: What it is and what it is not. *International Business & Economics Research Journal (IBER)*, 2(7), 2003. doi: 10.19030/iber.v2i7.3825. URL <https://doi.org/10.19030/iber.v2i7.3825>.
- Li, Mengjun, and Suh, Ayoung. Machinelike or humanlike? A literature review of anthropomorphism in AI-enabled technology. In *Proceedings of the 54th Hawaii International Conference on System Sciences*. University of Hawai, Honolulu, 2021. doi: 10.24251/HICSS.2021.493. URL <http://doi.org/10.24251/HICSS.2021.493>.
- Li, Zhenni, Terfurth, Leonie, Woller, Joshua Pepe, and Wiese, Eva. Mind the machines: Applying implicit measures of mind perception to social robotics. In *2022 17th ACM/IEEE International Conference on Human-Robot Interaction (HRI)*, pages 236–245. Institute of Electrical and Electronics Engineers, Piscataway, NJ, 2022. doi: 10.1109/HRI53351.2022.9889356. URL <https://doi.org/10.1109/HRI53351.2022.9889356>.
- Lin, Patrick, Abney, Keith, and Bekey, George A. *Robot Ethics: The Ethical and Social Implications of Robotics*. Intelligent Robotics and Autonomous Agents. MIT Press, Cambridge, MA, 2012. ISBN 9780262016667. URL <http://worldcat.org/oclc/1004334474>.
- Lindblom, Jessica, and Andreasson, Rebecca. Current challenges for UX evaluation of human-robot interaction. In Schlick, Christopher, and Trzcieliński, Stefan, editors, *Advances in Ergonomics of Manufacturing: Managing the Enterprise of the Future*, pages 267–277. Springer Nature, Cham, Switzerland, 2016. doi: 10.1007/978-3-319-41697-7\_24. URL [http://doi.org/10.1007/978-3-319-41697-7\\_24](http://doi.org/10.1007/978-3-319-41697-7_24).
- Lindblom, Jessica, and Ziemke, Tom. Social situatedness of natural and Artificial Intelligence: Vygotsky and beyond. *Adaptive Behavior*, 11(2):79–96, 2003. doi: 10.1177/10597123030112002. URL <https://doi.org/10.1177/10597123030112002>.
- Lindblom, Jessica, Alenljung, Beatrice, and Billing, Erik. Evaluating the user experience of human–robot interaction. In *Human-Robot Interaction*, pages 231–256. Springer, Cham, Switzerland, 2020. doi: 10.1007/978-3-030-42307-0\_9. URL [https://doi.org/10.1007/978-3-030-42307-0\\_9](https://doi.org/10.1007/978-3-030-42307-0_9).
- Litman, Todd. Autonomous vehicle implementation predictions: Implications for transport planning, 2020. URL [www.vtpi.org/avip.pdf](http://www.vtpi.org/avip.pdf).
- Liu, Peng, Du, Yong, Wang, Lin, and Da Young, Ju. Ready to bully automated vehicles on public roads? *Accident Analysis & Prevention*, 137:105457, 2020. doi: 10.1016/j.aap.2020.105457. URL <https://doi.org/10.1016/j.aap.2020.105457>.
- Liu, Phoebe, Glas, Dylan F., Kanda, Takayuki, Ishiguro, Hiroshi, and Hagita, Norihiro. It's not polite to point: Generating socially-appropriate deictic behaviors towards people. In *The 8th ACM/IEEE International Conference on Human-Robot Interaction*, pages 267–274.

- Institute of Electrical and Electronics Engineers, Piscataway, NJ, 2013. ISBN 978-1-4673-3099-2. doi: 10.1109/HRI.2013.6483598. URL <https://doi.org/10.1109/HRI.2013.6483598>.
- Liu, Phoebe, Glas, Dylan F., Kanda, Takayuki, and Ishiguro, Hiroshi. Data-driven HRI: Learning social behaviors by example from human-human interaction. *IEEE Transactions on Robotics*, 32(4):988–1008, 2016. ISSN 1552-3098. doi: 10.1109/TRO.2016.2588880. URL <https://doi.org/10.1109/TRO.2016.2588880>.
- Löffler, Diana, Dörrenbächer, Judith, and Hassenzahl, Marc. The uncanny valley effect in zoomorphic robots: The U-shaped relation between animal likeness and likeability. In *Proceedings of the 2020 ACM/IEEE International Conference on Human-Robot Interaction*, pages 261–270. Association for Computing Machinery, New York, 2020. doi: 10.1145/3319502.3374788. URL <https://doi.org/10.1145/3319502.3374788>.
- Loughnan, Stephen, and Haslam, Nick. Animals and androids: Implicit associations between social categories and nonhumans. *Psychological Science*, 18(2):116–121, 2007. doi: 10.1111/j.1467-9280.2007.01858.x. URL <https://doi.org/10.1111/j.1467-9280.2007.01858.x>.
- Lovett, Amber. *Coding with Blockly*. Cherry Lake, Ann Arbor, MI, 2017. ISBN 978-1634721851. URL <https://worldcat.org/en/title/953327379>.
- Lowdermilk, Travis. *User-Centered Design: A Developer's Guide to Building User-Friendly Applications*. O'Reilly, Sebastopol, CA, 2013. ISBN 978-1449359805. URL <http://worldcat.org/oclc/940703603>.
- Lowe, Andrew, Norris, Anthony C., Farris, A. Jane, and Babbage, Duncan R. Quantifying thematic saturation in qualitative data analysis. *Field Methods*, 30(3):191–207, 2018. doi: 10.1177/1525822X17749386. URL <https://doi.org/10.1177/1525822X17749386>.
- Luber, Matthias, Spinello, Luciano, Silva, Jens, and Arras, Kai O. Socially-aware robot navigation: A learning approach. In *IEEE/RSJ International Conference on Intelligent Robots and Systems*, pages 902–907. Institute of Electrical and Electronics Engineers, Piscataway, NJ, 2012. ISBN 978-1-4673-1737-5. doi: 10.1109/IROS.2012.6385716. URL <https://doi.org/10.1109/IROS.2012.6385716>.
- Lugrin, Birgit, Pelachaud, Catherine, André, Elisabeth, Aylett, Ruth, Bickmore, Timothy, Breazeal, Cynthia, Broekens, Joost, Dautenhahn, Kerstin, Gratch, Jonathan, Kopp, Stefan, Nadel, Jacqueline, Paiva, Ana, and Wykowska, Agnieszka. *Challenge Discussion on Socially Interactive Agents: Considerations on Social Interaction, Computational Architectures, Evaluation, and Ethics*, page 561–626. Association for Computing Machinery, New York, NY, USA, 1 edition, 2022. ISBN 9781450398961. doi: 10.1145/3563659.3563677.
- Lutin, Jerome M., Kornhauser, Alain L., and Lerner-Lam, Eva. The revolutionary development of self-driving vehicles and implications for the transportation engineering profession. *ITE Journal (Institute of Transportation Engineers)*, 83(7):28–32, 2013. URL [www.scopus.com/inward/record.uri?eid=2-s2.0-84883648917&partnerID=40&md5=33f8d1b58422c14174e4690152c619cc](http://www.scopus.com/inward/record.uri?eid=2-s2.0-84883648917&partnerID=40&md5=33f8d1b58422c14174e4690152c619cc).
- Lyu, Xiao-Kang, Xu, Yuepei, Zhao, Xiao-Fan, Zuo, Xi-Nian, and Hu, Chuan-Peng. Beyond psychology: Prevalence of *p* value and confidence interval misinterpretation across different fields. *Journal of Pacific Rim Psychology*, 14:e6, 2020. doi: 10.1017/prp.2019.28. URL <https://doi.org/10.1017/prp.2019.28>.
- MacDorman, Karl F., Vasudevan, Sandosh K., and Ho, Chin-Chang. Does Japan really have robot mania? Comparing attitudes by implicit and explicit measures. *AI & SOCIETY*, 23(4):485–510, Jul 2009. ISSN 1435-5655. doi: 10.1007/s00146-008-0181-2. URL <https://doi.org/10.1007/s00146-008-0181-2>.
- Macrae, C. Neil, and Quadflieg, Susanne. *Perceiving People*, chapter 12. John Wiley & Sons, Hoboken, NJ, 2010. ISBN 9780470561119. doi: 10.1002/9780470561119.socpsy001012. URL <https://onlinelibrary.wiley.com/doi/abs/10.1002/9780470561119.socpsy001012>.
- Manzeschke, Arne. Roboter in der Pflege: Von Menschen, Maschinen und anderen hilfsreichen Wesen. *EthikJournal*, 2019(1), 2019. URL [www.ethikjournal.de/fileadmin/user\\_upload/ethikjournal/Texte\\_Ausgabe\\_2019\\_1/Manzeschke\\_1.Nov\\_FINAL.pdf](http://www.ethikjournal.de/fileadmin/user_upload/ethikjournal/Texte_Ausgabe_2019_1/Manzeschke_1.Nov_FINAL.pdf).

- Mar, Alex. Modern love: Are we ready for intimacy with androids? *Wired Magazine*, October 2017. URL [www.wired.com/2017/10/hiroshi-ishiguro-when-robots-act-just-like-human-s/](http://www.wired.com/2017/10/hiroshi-ishiguro-when-robots-act-just-like-human-s/). Online; accessed 7-September-2018.
- Marchesi, Serena, Ghiglino, Davide, Ciardo, Francesca, Perez-Osorio, Jairo, Baykara, Ebru, and Wykowska, Agnieszka. Do we adopt the intentional stance toward humanoid robots? *Frontiers in Psychology*, 10:450, 2019. doi: 10.3389/fpsyg.2019.00450. URL <https://doi.org/10.3389/fpsyg.2019.00450>.
- Marshall, Aarian, and Davies, Alex. Uber’s self-driving car saw the woman it killed, report says. *Wired Magazine*, March 2018. URL [www.wired.com/story/uber-self-driving-crash-arizona-ntsb-report/](http://www.wired.com/story/uber-self-driving-crash-arizona-ntsb-report/). Online; accessed 7-November-2018.
- Marshall, Paul, Rogers, Yvonne, and Pantidi, Nadia. Using F-formations to analyse spatial patterns of interaction in physical environments. In *Proceedings of the ACM 2011 Conference on Computer Supported Cooperative Work*, pages 445–454. Association for Computing Machinery, New York, 2011. ISBN 978-1-4503-0556-3. doi: 10.1145/1958824.1958893. URL <https://doi.org/10.1145/1958824.1958893>.
- Martelaro, Nikolas, and Ju, Wendy. WoZ way: Enabling real-time remote interaction prototyping & observation in on-road vehicles. In *Proceedings of the 2017 ACM Conference on Computer Supported Cooperative Work and Social Computing*, pages 169–182. Association for Computing Machinery, New York, 2017. doi: 10.1145/2998181.2998293. URL <https://doi.org/10.1145/2998181.2998293>.
- Matarić, Maja J. *The Robotics Primer*. MIT Press, Cambridge, MA, 2007. ISBN 9780262633543. URL [www.worldcat.org/oclc/604083625](http://www.worldcat.org/oclc/604083625).
- Matheus, Kayla, Vázquez, Marnyel, and Scassellati, Brian. A social robot for anxiety reduction via deep breathing. In *2022 31st IEEE International Conference on Robot and Human Interactive Communication (RO-MAN)*, pages 89–94. Institute of Electrical and Electronics Engineers, Piscataway, NJ, 2022. doi: 10.1109/RO-MAN53752.2022.9900638. URL <https://doi.org/10.1109/RO-MAN53752.2022.9900638>.
- Mavridis, Nikolaos. A review of verbal and non-verbal human–robot interactive communication. *Robotics and Autonomous Systems*, 63(1):22–35, 2015. ISSN 0921-8890. doi: 10.1016/j.robot.2014.09.031. URL <https://doi.org/10.1016/j.robot.2014.09.031>.
- Maxwell, Scott E., Lau, Michael Y., and Howard, George S. Is psychology suffering from a replication crisis? What does “failure to replicate” really mean? *American Psychologist*, 70(6):487, 2015. doi: 10.1037/a0039400. URL <http://doi.org/10.1037/a0039400>.
- Mayer, Richard E., and DaPra, C. Scott. An embodiment effect in computer-based learning with animated pedagogical agents. *Journal of Experimental Psychology: Applied*, 18(3):239–252, 2012. doi: 10.1037/a0028616. URL <http://doi.org/10.1037/a0028616>.
- McCorduck, Pamela. *Machines Who Think: A Personal Inquiry into the History and Prospects of Artificial Intelligence*. W. H. Freeman, San Francisco, 1979. ISBN 978-1568812052. URL <http://worldcat.org/oclc/748860627>.
- McDermott, Drew. Yes, computers can think. *New York Times*, 1997. URL <http://nytimes.com/1997/05/14/opinion/yes-computers-can-think.html>.
- McLaren, Ian P. L., Forrest, Charlotte L. D., McLaren, Rossy P., Jones, Fergal William, Aitken, Michael, and Mackintosh, Nicholas J. Associations and propositions: The case for a dual-process account of learning in humans. *Neurobiology of Learning and Memory*, 108:185–195, 2014. doi: 10.1016/j.nlm.2013.09.014. URL <http://doi.org/10.1016/j.nlm.2013.09.014>.
- McQuillin, Emily, Churamani, Nikhil, and Gunes, Hatice. Learning socially appropriate robot-waiter behaviours through real-time user feedback. In *2022 17th ACM/IEEE International Conference on Human-Robot Interaction (HRI)*, pages 541–550. Institute of Electrical and Electronics Engineers, Piscataway, NJ, 2022. URL <https://doi.org/10.1109/HRI53351.2022.9889395>.
- Mehrabian, Albert. *Basic Dimensions for a General Psychological Theory: Implications for Personality, Social, Environmental, and Developmental Studies*. Oelgeschlager, Gunn & Hain, Cambridge, MA, 1980. ISBN 978-0899460048. URL <http://worldcat.org/oclc/925130232>.

- Mehrabian, Albert, and Russell, James A. *An Approach to Environmental Psychology*. MIT Press, Cambridge, MA, 1974. ISBN 9780262630719. URL <http://worldcat.org/oclc/318133343>.
- Mehta, Vikas. The new proxemics: COVID-19, social distancing, and sociable space. *Journal of Urban Design*, 25(6):669–674, 2020. doi: doi.org/10.1080/13574809.2020.1785283. URL <https://doi.org/10.1080/13574809.2020.1785283>.
- Michałowski, Marek P., Šabanović, Selma, and Simmons, Reid. A spatial model of engagement for a social robot. In *9th IEEE International Workshop on Advanced Motion Control*, pages 762–767. Institute of Electrical and Electronics Engineers, Piscataway, NJ, 2006. ISBN 0-7803-9511-1. doi: 10.1109/AMC.2006.1631755. URL <https://doi.org/10.1109/AMC.2006.1631755>.
- Michałowski, Marek P., Šabanović, Selma, and Kozima, Hideki. A dancing robot for rhythmic social interaction. In *2nd ACM/IEEE International Conference on Human-Robot Interaction*, pages 89–96. Institute of Electrical and Electronics Engineers, Piscataway, NJ, 2007. ISBN 978-1-59593-617-2. doi: 10.1145/1228716.1228729. URL <https://doi.org/10.1145/1228716.1228729>.
- Mieczkowski, Hannah, Liu, Sunny Xun, Hancock, Jeffrey, and Reeves, Byron. Helping not hurting: Applying the stereotype content model and bias map to social robotics. In *2019 14th ACM/IEEE International Conference on Human-Robot Interaction (HRI)*, pages 222–229. Institute of Electrical and Electronics Engineers, Piscataway, NJ, 2019. doi: 10.1109/HRI.2019.8673307. URL <https://doi.org/10.1109/HRI.2019.8673307>.
- Mitchel, Russ. DMV probing whether Tesla violates state regulations with self-driving claims. *Los Angeles Times*, 2021. URL [www.latimes.com/business/story/2021-05-17/dmv-tesla-c-alifornia-fsd-autopilot-safety](http://www.latimes.com/business/story/2021-05-17/dmv-tesla-c-alifornia-fsd-autopilot-safety).
- Mitra, Sushmita, and Acharya, Tinku. Gesture recognition: A survey. *IEEE Transactions on Systems, Man, and Cybernetics, Part C (Applications and Reviews)*, 37(3):311–324, 2007. doi: 10.1109/TSMCC.2007.893280. URL <https://doi.org/10.1109/TSMCC.2007.893280>.
- Mitsunaga, Noriaki, Smith, Christian, Kanda, Takayuki, Ishiguro, Hiroshi, and Hagita, Norihiro. Adapting robot behavior for human–robot interaction. *IEEE Transactions on Robotics*, 24(4):911–916, 2008. URL <https://doi.org/10.1109/TRO.2008.926867>.
- Mlekuš, Lisa, Bentler, Dominik, Paruzel, Agnieszka, Kato-Beiderwieden, Anna-Lena, and Maier, Günter W. How to raise technology acceptance: User experience characteristics as technology-inherent determinants. *Gruppe. Interaktion. Organisation. Zeitschrift für Angewandte Organisationspsychologie (GIO)*, 51(3):273–283, 2020. doi: 10.1007/s11612-020-00529-7. URL <https://doi.org/10.1007/s11612-020-00529-7>.
- Moharana, Sanika, Panduro, Alejandro E., Lee, Hee Rin, and Riek, Laurel D. Robots for joy, robots for sorrow: community based robot design for dementia caregivers. In *2019 14th ACM/IEEE International Conference on Human-Robot Interaction (HRI)*, pages 458–467. Institute of Electrical and Electronics Engineers, Piscataway, NJ, 2019. doi: 10.1109/HRI.2019.8673206. URL <https://doi.org/10.1109/HRI.2019.8673206>.
- Moore, Roger K. A Bayesian explanation of the “uncanny valley” effect and related psychological phenomena. *Scientific Reports*, 2:864, 2012. doi: 10.1038/srep00864. URL <http://doi.org/10.1038/srep00864>.
- Morales Saiki, Luis Yoichi, Satake, Satoru, Kanda, Takayuki, and Hagita, Norihiro. Modeling environments from a route perspective. In *6th International Conference on Human-Robot Interaction*, pages 441–448. Association for Computing Machinery, New York, 2011. ISBN 978-1-4503-0561-7. doi: 10.1145/1957656.1957815. URL <https://doi.org/10.1145/1957656.1957815>.
- Morales Saiki, Luis Yoichi, Satake, Satoru, Huq, Rajibul, Glas, Dylan, Kanda, Takayuki, and Hagita, Norihiro. How do people walk side-by-side? Using a computational model of human behavior for a social robot. In *7th Annual ACM/IEEE International Conference on Human-Robot Interaction*, pages 301–308. Association for Computing Machinery, New York, 2012. ISBN 978-1-4503-1063-5. doi: 10.1145/2157689.2157799. URL <https://doi.org/10.1145/2157689.2157799>.

- Mori, Masahiro. The uncanny valley. *Energy*, 7:33–35, 1970. doi: 10.1109/MRA.2012.2192811. URL <https://doi.org/10.1109/MRA.2012.2192811>.
- Mori, Masahiro. *The Buddha in the Robot*. Tuttle Publishing, Tokyo, Japan, 1982. ISBN 978-4333010028. URL <http://worldcat.org/oclc/843422852>.
- Mori, Masahiro, MacDorman, Karl F., and Kageki, Norri. The uncanny valley [from the field]. *IEEE Robotics & Automation Magazine*, 19(2):98–100, 2012. doi: 10.1109/MRA.2012.2192811. URL <https://doi.org/10.1109/MRA.2012.2192811>.
- Mosbergen, Dominique. Good job, America. You killed hitchBOT. *Huffpost*, 2015. URL [www.huffpost.com/entry/hitchbot-destroyed-philadelphia\\_n\\_55bf24cde4b0b23e3ce32a67](http://www.huffpost.com/entry/hitchbot-destroyed-philadelphia_n_55bf24cde4b0b23e3ce32a67).
- Moscow Times. Third Russian doctor falls from hospital window after coronavirus complaint. *Moscow Times*, May 2020. URL [www.themoscowtimes.com/2020/05/04/third-russian-doctor-falls-from-hospital-window-after-coronavirus-complaint-a70176](http://www.themoscowtimes.com/2020/05/04/third-russian-doctor-falls-from-hospital-window-after-coronavirus-complaint-a70176).
- Mostafaoui, Ghiles, Schmidt, R. C., Hasnain, Syed Khursheed, Salesse, Robin, and Marin, Ludovic. Human unintentional and intentional interpersonal coordination in interaction with a humanoid robot. *PLoS One*, 17(1):e0261174, 2022. doi: 10.1371/journal.pone.0261174. URL <https://doi.org/10.1371/journal.pone.0261174>.
- Moujahid, Meriam, Hastie, Helen, and Lemon, Oliver. Multi-party interaction with a robot receptionist. In *2022 17th ACM/IEEE International Conference on Human-Robot Interaction (HRI)*, pages 927–931. Institute of Electrical and Electronics Engineers, Piscataway, NJ, 2022. doi: 10.1109/HRI53351.2022.9889641. URL <https://doi.org/10.1109/HRI53351.2022.9889641>.
- Muir, Bonnie M. Trust in automation: Part I. Theoretical issues in the study of trust and human intervention in automated systems. *Ergonomics*, 37(11):1905–1922, 1994. doi: 10.1080/00140139408964957. URL <https://doi.org/10.1080/00140139408964957>.
- Mumm, Jonathan, and Mutlu, Bilge. Human-robot proxemics: Physical and psychological distancing in human-robot interaction. In *Proceedings of the 2011 ACM/IEEE International Conference on Human-Robot Interaction*, pages 331–338. Association for Computing Machinery, New York, 2011. ISBN 978-1-4503-0561-7. doi: 10.1145/1957656.1957786. URL <https://dl.acm.org/citation.cfm?doid=1957656.1957786>.
- Murphy, Mike. The beginning of the end: Google's AI has beaten a top human player at the complex game of Go. *Quartz*, 2016. URL <https://qz.com/636637/the-beginning-of-the-end-googles-ai-has-beaten-a-top-human-player-at-the-complex-game-of-go/>.
- Mutlu, Bilge, and Forlizzi, Jodi. Robots in organizations: The role of workflow, social, and environmental factors in human-robot interaction. In *3rd ACM/IEEE International Conference on Human-Robot Interaction*, pages 287–294. Institute of Electrical and Electronics Engineers, Piscataway, NJ, 2008. ISBN 978-1-60558-017-3. doi: 10.1145/1349822.1349860. URL <https://doi.org/10.1145/1349822.1349860>.
- Mutlu, Bilge, Forlizzi, Jodi, and Hodgins, Jessica. A storytelling robot: Modeling and evaluation of human-like gaze behavior. In *6th IEEE-RAS International Conference on Humanoid Robots*, pages 518–523. Citeseer, 2006. ISBN 1-4244-0199-2. doi: <https://doi.org/10.1109/ICHR.2006.321322>. URL <https://doi.org/10.1109/ICHR.2006.321322>.
- Mutlu, Bilge, Shiwa, Toshiyuki, Kanda, Takayuki, Ishiguro, Hiroshi, and Hagita, Norihiro. Footing in human-robot conversations: How robots might shape participant roles using gaze cues. In *The 4th ACM/IEEE International Conference on Human-Robot Interaction*, pages 61–68. Association for Computing Machinery, New York, 2009. ISBN 978-1-60558-404-1. doi: 10.1145/1514095.1514109. URL <https://doi.org/10.1145/1514095.1514109>.
- Mutlu, Bilge, Kanda, Takayuki, Forlizzi, Jodi, Hodgins, Jessica, and Ishiguro, Hiroshi. Conversational gaze mechanisms for humanlike robots. *ACM Transactions on Interactive Intelligent Systems*, 1(2):12, 2012. doi: 10.1145/2070719.2070725. URL <https://doi.org/10.1145/2070719.2070725>.
- Nakanishi, Junya, Kuramoto, Itaru, Baba, Jun, Ogawa, Kohei, Yoshikawa, Yuichiro, and Ishiguro, Hiroshi. Continuous hospitality with social robots at a hotel. *SN Applied Sciences*, 2(3):1–13, 2020. doi: 10.1007/s42452-020-2192-7. URL <https://doi.org/10.1007/s42452-020-2192-7>.

- Nakauchi, Yasushi, and Simmons, Reid. A social robot that stands in line. *Autonomous Robots*, 12(3):313–324, 2002. doi: 10.1023/A:1015273816637. URL <https://doi.org/10.1023/A:1015273816637>.
- Naneva, Stanislava, Sarda Gou, Marina, Webb, Thomas L., and Prescott, Tony J. A systematic review of attitudes, anxiety, acceptance, and trust towards social robots. *International Journal of Social Robotics*, 12(6):1179–1201, 2020. doi: 10.1007/s12369-020-00659-4. URL <https://doi.org/10.1007/s12369-020-00659-4>.
- Nascimento, Alexandre Moreira, Vismari, Lucio Flavio, Molina, Caroline Bianca Santos Tancredi, Cugnasca, Paulo Sergio, Camargo, Joao Batista, de Almeida, Jorge Rady, Inam, Rafia, Fersman, Elena, Marquezini, Maria Valeria, and Hata, Alberto Yukinobu. A systematic literature review about the impact of artificial intelligence on autonomous vehicle safety. *IEEE Transactions on Intelligent Transportation Systems*, 21(12):4928–4946, 2019. doi: 10.1109/TITS.2019.2949915. URL <https://doi.org/10.1109/TITS.2019.2949915>.
- National Roads and Motorists' Association. Driverless cars: The benefits and what it means for the future of mobility, 2018. URL [www.mynrma.com.au/cars-and-driving/driver-training-and-licences/resources/driverless-cars-the-benefits-and-what-it-means-for-the-future-of-mobility](http://www.mynrma.com.au/cars-and-driving/driver-training-and-licences/resources/driverless-cars-the-benefits-and-what-it-means-for-the-future-of-mobility).
- National Transportation Safety Board. Collision between vehicle controlled by developmental automated driving system and pedestrian, Tempe, Arizona, March 18, 2018. Report, National Transportation Safety Board, 2019. URL [www.ntsb.gov/investigations/AccidentReports/Reports/HAR1903.pdf](http://www.ntsb.gov/investigations/AccidentReports/Reports/HAR1903.pdf).
- Nauts, Sanne, Langner, Oliver, Huijsmans, Inge, Vonk, Roos, and Wigboldus, Daniël H. J. Forming impressions of personality: A replication and review of Asch's (1946) evidence for a primacy-of-warmth effect in impression formation. *Social Psychology*, 45(3):153, 2014. doi: 10.1027/1864-9335/a000179. URL <https://doi.org/10.1027/1864-9335/a000179>.
- Navigli, Roberto, and Ponzetto, Simone Paolo. BabelNet: The automatic construction, evaluation and application of a wide-coverage multilingual semantic network. *Artificial Intelligence*, 193:217–250, 2012. doi: 10.1016/j.artint.2012.07.001. URL <https://doi.org/10.1016/j.artint.2012.07.001>.
- Nehaniv, Christopher L., Dautenhahn, Kerstin, Kubacki, Jens, Haegele, Martin, Parlitz, Christopher, and Alami, Rachid. A methodological approach relating the classification of gesture to identification of human intent in the context of human-robot interaction. In *IEEE International Workshop on Robot and Human Interactive Communication*, pages 371–377. Institute of Electrical and Electronics Engineers, Piscataway, NJ, 2005. ISBN 0780392744. doi: 10.1109/ROMAN.2005.1513807. URL <https://doi.org/10.1109/ROMAN.2005.1513807>.
- Newhart, Veronica Ahumada, Warschauer, Mark, and Sender, Leonard. Virtual inclusion via telepresence robots in the classroom: An exploratory case study. *International Journal of Technologies in Learning*, 23(4):9–25, 2016. ISSN 2327-2686. URL [https://escholarship.org/uc/item/9zm4h7nf](http://escholarship.org/uc/item/9zm4h7nf).
- Nguyen, Bang, Melewar, T. C., and Chen, Junsong. A framework of brand likeability: an exploratory study of likeability in firm-level brands. *Journal of Strategic Marketing*, 21(4):368–390, 2013. doi: 10.1177/030630701303800303. URL <https://doi.org/10.1177/030630701303800303>.
- Niimi, Ryosuke, and Watanabe, Katsumi. Consistency of likeability of objects across views and time. *Perception*, 41(6):673–686, 2012. doi: 10.1088/p7240. URL <https://doi.org/10.1088/p7240>.
- Nishiguchi, Shogo, Ogawa, Kohei, Yoshikawa, Yuichiro, Chikaraishi, Takenobu, Hirata, Oriza, and Ishiguro, Hiroshi. Theatrical approach: Designing human-like behaviour in humanoid robots. *Robotics and Autonomous Systems*, 89:158–166, 2017. doi: 10.1016/j.robot.2016.11.017. URL <https://doi.org/10.1016/j.robot.2016.11.017>.
- Nomura, Tatsuya, Kanda, Takayuki, Kidokoro, Hiroyoshi, Suehiro, Yoshitaka, and Yamada, Sachie. Why do children abuse robots? *Interaction Studies*, 17(3):347–369, 2016. doi: 10.1075/is.17.3.02nom. URL <https://doi.org/10.1075/is.17.3.02nom>.

- Norman, Don. *The Design of Everyday Things: Revised and Expanded Edition*. Basic Books, New York, 2013. ISBN 9780465072996. URL <http://worldcat.org/oclc/862103168>.
- Norman, Donald A. The way I see it: Signifiers, not affordances. *Interactions*, 15(6):18–19, 2008. doi: 10.1145/1409040.1409044. URL <https://doi.org/10.1145/1409040.1409044>.
- Nosek, Brian A., Ebersole, Charles R., DeHaven, Alexander, and Mellor, David. The preregistration revolution. *Proceedings of the National Academy of Sciences of the United States of America*, 115(11):2600–2606, 2017. doi: 10.1073/pnas.1708274114. URL <https://doi.org/10.1073/pnas.1708274114>.
- Nourbakhsh, Illah R., Bobenage, Judith, Grange, Sebastien, Lutz, Ron, Meyer, Roland, and Soto, Alvaro. An affective mobile robot educator with a full-time job. *Artificial Intelligence*, 114(1–2):95–124, 1999. doi: 10.1016/S0004-3702(99)00027-2. URL [https://doi.org/10.1016/S0004-3702\(99\)00027-2](https://doi.org/10.1016/S0004-3702(99)00027-2).
- Nourbakhsh, Illah Reza. *Robot Futures*. MIT Press, Cambridge, MA, 2013. ISBN 9780262018623. URL <http://worldcat.org/oclc/945438245>.
- Novikova, Jekaterina, and Watts, Leon. Towards artificial emotions to assist social coordination in HRI. *International Journal of Social Robotics*, 7(1):77–88, 2015. doi: 10.1007/s12369-014-0254-y. URL <https://doi.org/10.1007/s12369-014-0254-y>.
- Nuzzo, Regina. Statistical errors. *Nature*, 506(7487):150, 2014. doi: 10.1038/506150a. URL <https://doi.org/10.1038/506150a>.
- Obaid, Mohammad, Johal, Wafa, and Mubin, Omar. Domestic drones: Context of use in research literature. In *Proceedings of the 8th International Conference on Human-Agent Interaction*, pages 196–203. Association for Computing Machinery, New York, 2020. doi: 10.1145/3406499.3415076. URL <https://doi.org/10.1145/3406499.3415076>.
- Oppenheimer, Daniel M., Meyvis, Tom, and Davidenko, Nicolas. Instructional manipulation checks: Detecting satisficing to increase statistical power. *Journal of Experimental Social Psychology*, 45(4):867–872, 2009. doi: 10.1016/j.jesp.2009.03.009. URL <https://doi.org/10.1016/j.jesp.2009.03.009>.
- Ortony, Andrew, and Turner, Terence J. What's basic about basic emotions? *Psychological Review*, 97(3):315, 1990. doi: 10.1037/0033-295X.97.3.315. URL <https://doi.org/10.1037/0033-295X.97.3.315>.
- Ortony, Andrew, Clore, Gerald, and Collins, Allan. *The Cognitive Structure of Emotions*. Cambridge University Press, Cambridge, 1988. ISBN 978-0521386647. URL <http://worldcat.org/oclc/910015120>.
- Osawa, Hirotaka, Ohmura, Ren, and Imai, Michita. Using attachable humanoid parts for realizing imaginary intention and body image. *International Journal of Social Robotics*, 1(1):109–123, 2009. doi: 10.1007/s12369-008-0004-0. URL <https://doi.org/10.1007/s12369-008-0004-0>.
- Pacchierotti, Elena, Christensen, Henrik I., and Jensfelt, Patric. Evaluation of passing distance for social robots. In *The 15th IEEE International Symposium on Robot and Human Interactive Communication*, pages 315–320. Institute of Electrical and Electronics Engineers, Piscataway, NJ, 2006. ISBN 1-4244-0564-5. doi: 10.1109/ROMAN.2006.314436. URL <https://doi.org/10.1109/ROMAN.2006.314436>.
- Paepcke, Steffi, and Takayama, Leila. Judging a bot by its cover: An experiment on expectation setting for personal robots. In *5th ACM/IEEE International Conference on Human-Robot Interaction*, pages 45–52. Institute of Electrical and Electronics Engineers, Piscataway, NJ, 2010. ISBN 978-1-4244-4892-0. doi: 10.1109/HRI.2010.5453268. URL <https://doi.org/10.1109/HRI.2010.5453268>.
- Paetzel, Maike, Peters, Christopher, Nyström, Ingela, and Castellano, Ginevra. Congruency matters—How ambiguous gender cues increase a robot's uncanniness. In Agah, Arvin, Cabibihan, John-John, Howard, Ayanna M., Salichs, Miguel A., and He, Hongsheng, editors, *International Conference on Social Robotics*, pages 402–412. Springer, Cham, Switzerland, 2016. doi: 10.1007/978-3-319-47437-3\_39. URL [https://doi.org/10.1007/978-3-319-47437-3\\_39](https://doi.org/10.1007/978-3-319-47437-3_39).

- Paetzel-Prüsmann, Maike. The novelty in the uncanny: Designing interactions to change first impressions. PhD thesis, Acta Universitatis Upsaliensis, 2020. URL <http://urn.kb.se/resolve?urn=urn:nbn:se:uu:diva-418921>.
- Pantic, Maja, Pentland, Alex, Nijholt, Anton, and Huang, Thomas S. Human computing and machine understanding of human behavior: A survey. In S., Huang T., A., Nijholt, M., Pantic, and A., Pentland, editors, *Artificial Intelligence for Human Computing*, volume 4451 of Lecture Notes in Computer Science, pages 47–71. Springer, Berlin, 2007. doi: 10.1007/978-3-540-72348-6\_3. URL [https://doi.org/10.1007/978-3-540-72348-6\\_3](https://doi.org/10.1007/978-3-540-72348-6_3).
- Parasuraman, Raja, and Riley, Victor. Humans and automation: Use, misuse, disuse, abuse. *Human Factors*, 39(2):230–253, 1997. doi: 10.1518/001872097778543886. URL <https://doi.org/10.1518/001872097778543886>.
- Park, Hae Won, Gelsomini, Mirko, Lee, Jin Joo, and Breazeal, Cynthia. Telling stories to robots: The effect of backchanneling on a child’s storytelling. In *ACM/IEEE International Conference on Human-Robot Interaction*, pages 100–108. Association for Computing Machinery, New York, 2017a. ISBN 978-1-4503-4336-7. doi: 10.1145/2909824.3020245. URL <https://doi.org/10.1145/2909824.3020245>.
- Park, Hae Won, Rosenberg-Kima, Rinat, Rosenberg, Maor, Gordon, Goren, and Breazeal, Cynthia. Growing growth mindset with a social robot peer. In *Proceedings of the 2017 ACM/IEEE International Conference on Human-Robot Interaction*, pages 137–145. Association for Computing Machinery, New York, 2017b. doi: 10.1145/2909824.3020213. URL <https://doi.org/10.1145/2909824.3020213>.
- Partikska, and Kattepur, Ajay. Robotic tele-operation performance analysis via digital twin simulations. In *2022 14th International Conference on COMmunication Systems & NETworkS (COMSNETS)*, pages 415–417. Institute of Electrical and Electronics Engineers, Piscataway, NJ, 2022. doi: 10.1109/COMSNETS53615.2022.9668555. URL <https://doi.org/10.1109/COMSNETS53615.2022.9668555>.
- Partridge, Michael, and Bartneck, Christoph. The Invisible Naked Guy: An exploration of a minimalistic robot. In *The First International Conference on Human-Agent Interaction*, pages II–2–p2, 2013. doi: 10.17605/OSF.IO/A4YM5. URL <https://doi.org/10.17605/OSF.IO/A4YM5>.
- Pentland, Alex, and Heibeck, Tracy. *Honest Signals: How They Shape Our World*. MIT Press, Cambridge, MA, 2010. ISBN 978-0262515122. URL <http://worldcat.org/oclc/646395585>.
- Pérez-Hurtado, Ignacio, Capitán, Jesús, Caballero, Fernando, and Merino, Luis. Decision-theoretic planning with person trajectory prediction for social navigation. In *Robot 2015: Second Iberian Robotics Conference*, pages 247–258. Springer, Cham, Switzerland, 2016. ISBN 978-3-319-27148-4. doi: 10.1007/978-3-319-27149-1\_20. URL [https://doi.org/10.1007/978-3-319-27149-1\\_20](https://doi.org/10.1007/978-3-319-27149-1_20).
- Perugia, Giulia, and Lisy, Dominika. Robot’s gendering trouble: A scoping review of gendering humanoid robots and its effects on HRI. arXiv, arXiv:2207.01130, 2022.
- Perugia, Giulia, Guidi, Stefano, Bicchi, Margherita, and Parlangeli, Oronzo. The shape of our bias: Perceived age and gender in the humanoid robots of the ABOT database. In *Proceedings of the 2022 ACM/IEEE International Conference on Human-Robot Interaction*, pages 110–119. Institute of Electrical and Electronics Engineers, Piscataway, NJ, 2022. doi: 10.1109/HRI53351.2022.9889366. URL <http://doi.org/10.1109/HRI53351.2022.9889366>.
- Perugia, Giulia, Boor, Latisha, van der Bij, Laura, Rikmenspoel, Okke, Foppen, Robin, and Guidi, Stefano. Models of (often) ambivalent robot stereotypes: Content, structure, and predictors of robots’ age and gender stereotypes. In *Proceedings of the 2023 ACM/IEEE International Conference on Human-Robot Interaction*, pages 428–436. Association for Computing Machinery, New York, 2023. doi: 10.1145/3568162.3576981. URL <https://doi.org/10.1145/3568162.3576981>.
- Petrovic, Dorde, Mijailovic, Radomir, and Pesic, Dalibor. Traffic accidents with autonomous vehicles: Type of collisions, manoeuvres and errors of conventional vehicles’ drivers. *Transportation Research Procedia*, 45:161–168, 2020. ISSN 2352-1465. doi: <https://doi.org/10.1016/j.trpro.2020.161-168>.

- //doi.org/10.1016/j.trpro.2020.03.003. URL <http://sciedirect.com/science/article/pii/S2352146520301654>.
- Pettigrew, Thomas F., Tropp, Linda R., Wagner, Ulrich, and Christ, Oliver. Recent advances in intergroup contact theory. *International Journal of Intercultural Relations*, 35(3):271–280, 2011. doi: 10.1016/j.ijintrel.2011.03.001. URL <https://doi.org/10.1016/j.ijintrel.2011.03.001>.
- Picard, Rosalind W. *Affective Computing*. MIT Press, Cambridge, MA, Cambridge, MA, 1997. ISBN 978-0262661157. URL <https://mitpress.mit.edu/books/affective-computing>.
- Pineau, Joelle, Montemerlo, Michael, Pollack, Martha, Roy, Nicholas, and Thrun, Sebastian. Towards robotic assistants in nursing homes: Challenges and results. *Robotics and Autonomous Systems*, 42(3–4):271–281, 2003. doi: 10.1016/S0921-8890(02)00381-0. URL [https://doi.org/10.1016/S0921-8890\(02\)00381-0](https://doi.org/10.1016/S0921-8890(02)00381-0).
- Pirsig, Robert M. *Zen and the Art of Motorcycle Maintenance: An Inquiry into Values*. Morrow, New York, 1974. ISBN 0688002307. URL <http://worldcat.org/oclc/41356566>.
- Piumsomboon, Thammathip, Clifford, Rory, and Bartneck, Christoph. Demonstrating Maori haka with Kinect and Nao robots. In *Proceedings of the Seventh Annual ACM/IEEE International Conference on Human-Robot Interaction*, pages 429–430. Association for Computing Machinery, New York, 2012. ISBN 9781450310635. doi: 10.1145/2157689.2157832. URL <https://doi.org/10.1145/2157689.2157832>.
- Pizzagalli, Diego A., Holmes, Avram J., Dillon, Daniel G., Goetz, Elena L., Birk, Jeffrey L., Bogdan, Ryan, Dougherty, Darin D., Iosifescu, Dan V., Rauch, Scott L., and Fava, Maurizio. Reduced caudate and nucleus accumbens response to rewards in unmedicated individuals with major depressive disorder. *American Journal of Psychiatry*, 166(6):702–710, 2009. doi: 10.1016/j.jpsychires.2008.03.001. URL <https://doi.org/10.1016/j.jpsychires.2008.03.001>.
- Plutchik, Robert Ed, and Conte, Hope R. *Circumplex Models of Personality and Emotions*. American Psychological Association, Washington, DC, 1997. ISBN 978-1557983800. URL <http://worldcat.org/oclc/442562242>.
- Pop, Cristina Anamaria, Simut, Ramona, Pintea, Sebastian, Saldien, Jelle, Rusu, Alina, David, Daniel, Vanderfaillie, Johan, Lefever, Dirk, and Vanderborght, Bram. Can the social robot Probo help children with autism to identify situation-based emotions? A series of single case experiments. *International Journal of Humanoid Robotics*, 10(3):1350025, 2013. doi: 10.1142/S0219843613500254. URL <https://doi.org/10.1142/S0219843613500254>.
- Posner, Jonathan, Russell, James A., and Peterson, Bradley S. The circumplex model of affect: An integrative approach to affective neuroscience, cognitive development, and psychopathology. *Development and Psychopathology*, 17(3):715–734, 2005. doi: 10.1017/S0954579405050340. URL <https://doi.org/10.1017/S0954579405050340>.
- Posner, Michael I. *Cognitive Neuroscience of Attention*. Guilford Press, New York, 2011. ISBN 978-1609189853. URL <http://worldcat.org/oclc/958053069>.
- Powers, Aaron, Kramer, Adam D. I., Lim, Shirlene, Kuo, Jean, Lee, Sau-lai, and Kiesler, Sara. Eliciting information from people with a gendered humanoid robot. In *IEEE International Workshop on Robot and Human Interactive Communication*, pages 158–163. Institute of Electrical and Electronics Engineers, Piscataway, NJ, 2005. ISBN 0-7803-9274-4. doi: 10.1109/ROMAN.2005.1513773. URL <https://doi.org/10.1109/ROMAN.2005.1513773>.
- Powers, Aaron, Kiesler, Sara, Fussell, Susan, and Torrey, Cristen. Comparing a computer agent with a humanoid robot. In *Proceedings of the ACM/IEEE International Conference on Human-Robot Interaction*, pages 145–152. Association for Computing Machinery, New York, 2007. ISBN 978-1-59593-617-2. doi: 10.1145/1228716.1228736. URL <https://doi.org/10.1145/1228716.1228736>.
- Press, Associated. San Francisco supervisors bar police robots from using deadly force for now. *NPR*, 2022. URL [www.npr.org/2022/12/06/114112994/san-francisco-deadly-robot-s-police](http://www.npr.org/2022/12/06/114112994/san-francisco-deadly-robot-s-police).

- Pulles, Niels J., and Hartman, Paul. Likeability and its effect on outcomes of interpersonal interaction. *Industrial Marketing Management*, 66:56–63, 2017. doi: 10.1016/j.indmarmann.2017.06.008. URL <https://doi.org/10.1016/j.indmarmann.2017.06.008>.
- Radford, Alec, Kim, Jong Wook, Xu, Tao, Brockman, Greg, McLeavey, Christine, and Sutskever, Ilya. Robust speech recognition via large-scale weak supervision. arXiv, arXiv:2212.04356, 2022. doi: 10.48550/arXiv.2212.04356. URL <https://doi.org/10.48550/arXiv.2212.04356>.
- Randall, Natasha, Bennett, Casey C., Šabanović, Selma, Nagata, Shinichi, Eldridge, Lori, Collins, Sawyer, and Piatt, Jennifer A. More than just friends: In-home use and design recommendations for sensing socially assistive robots (SARs) by older adults with depression. *Paladyn, Journal of Behavioral Robotics*, 10(1):237–255, 2019. doi: 10.1515/pjbr-2019-0020. URL <https://doi.org/10.1515/pjbr-2019-0020>.
- Randall, Natasha, Šabanović, Selma, Milojević, Staša, and Gupta, Apurva. Top of the class: Mining product characteristics associated with crowdfunding success and failure of home robots. *International Journal of Social Robotics*, 14:149–163, 2022. doi: 10.1007/s12369-021-00776-8. URL <https://doi.org/10.1007/s12369-021-00776-8>.
- Reeves, Byron, and Nass, Clifford Ivar. *The Media Equation: How People Treat Computers, Television, and New Media Like Real People and Places*. Cambridge University Press, Cambridge, 1996. ISBN 978-1575860534. URL <http://worldcat.org/oclc/796222708>.
- Rehm, Matthias, and Krogsager, Anders. Negative affect in human robot interaction—Impoliteness in unexpected encounters with robots. In *Proceedings of the 22nd IEEE International Symposium on Robot and Human Interactive Communication (RO-MAN)*, pages 45–50. Institute of Electrical and Electronics Engineers, Piscataway, NJ, 2013. doi: 10.1109/ROMAN.2013.6628529. URL <https://doi.org/10.1109/ROMAN.2013.6628529>.
- Reich-Stiebert, Natalia, and Eyssel, Friederike. Learning with educational companion robots? Toward attitudes on education robots, predictors of attitudes, and application potentials for education robots. *International Journal of Social Robotics*, 7(5):875–888, Nov 2015. ISSN 1875-4805. doi: 10.1007/s12369-015-0308-9. URL <https://doi.org/10.1007/s12369-015-0308-9>.
- Reich-Stiebert, Natalia, and Eyssel, Friederike. Robots in the classroom: What teachers think about teaching and learning with education robots. In *International Conference on Social Robotics*, pages 671–680. Springer, Cham, Switzerland, 2016. ISBN 978-3-319-47436-6. doi: 10.1007/978-3-319-47437-3\_6. URL [https://doi.org/10.1007/978-3-319-47437-3\\_6](https://doi.org/10.1007/978-3-319-47437-3_6).
- Reich-Stiebert, Natalia, and Eyssel, Friederike Anne. Leben mit Robotern—Eine Online-Befragung im deutschen Sprachraum zur Akzeptanz von Servicerobotern im Alltag [Poster], 2013. URL <https://pub.uni-bielefeld.de/publication/2907019>.
- Reichardt, Jasia. *Robots: Fact, Fiction, and Prediction*. Thames and Hudson, London, 1978. ISBN 9780140049381. URL <http://worldcat.org/oclc/1001944069>.
- Remington, Nancy A., Fabrigar, Leandre R., and Visser, Penny S. Reexamining the circumplex model of affect. *Journal of Personality and Social Psychology*, 79(2):286–300, 2000. doi: 10.1037/0022-3514.79.2.286. URL <https://doi.org/10.1037/0022-3514.79.2.286>.
- Rich, Charles, Ponsler, Brett, Holroyd, Aaron, and Sidner, Candace L. Recognizing engagement in human-robot interaction. In *5th ACM/IEEE International Conference on Human-Robot Interaction*, pages 375–382. Institute of Electrical and Electronics Engineers, Piscataway, NJ, 2010. ISBN 978-1-4244-4892-0. doi: 10.1109/HRI.2010.5453163. URL <https://doi.org/10.1109/HRI.2010.5453163>.
- Riek, Laurel D. Wizard of Oz studies in HRI: A systematic review and new reporting guidelines. *Journal of Human-Robot Interaction*, 1(1):119–136, 2012. doi: 10.5898/JHRI.1.1.Riek. URL <https://doi.org/10.5898/JHRI.1.1.Riek>.
- Riek, Laurel D. Robotics technology in mental health care. In Luxton, David D., editor, *Artificial Intelligence in Behavioral and Mental Health Care*, pages 185–203. Elsevier, St. Louis, MO, 2016. doi: 10.1145/3127874. URL <https://doi.org/10.1145/3127874>.

- Riek, Laurel D. Healthcare robotics. *Communications of the ACM*, 60(11):68–78, 2017. doi: 10.1145/3127874. URL <https://doi.org/10.1145/3127874>.
- Riek, Laurel D., Paul, Philip C., and Robinson, Peter. When my robot smiles at me: Enabling human-robot rapport via real-time head gesture mimicry. *Journal on Multimodal User Interfaces*, 3(1–2):99–108, 2010. doi: 10.1007/s12193-009-0028-2. URL <https://doi.org/10.1007/s12193-009-0028-2>.
- Rizzolatti, Giacomo, and Craighero, Layla. The mirror neuron-system. *Annual Review of Neuroscience*, 27(4):169–192, 2004. doi: 10.1146/annurev.neuro.27.070203.144230. URL <https://doi.org/10.1146/annurev.neuro.27.070203.144230>.
- Robins, Ben, Dautenhahn, Kerstin, and Dickerson, Paul. From isolation to communication: A case study evaluation of robot assisted play for children with autism with a minimally expressive humanoid robot. In *2nd International Conferences on Advances in Computer-Human Interactions*, pages 205–211. Institute of Electrical and Electronics Engineers, Piscataway, NJ, 2009. ISBN 978-1-4244-3351-3. doi: 10.1109/ACHI.2009.32. URL <https://doi.org/10.1109/ACHI.2009.32>.
- Robinson, Hayley, MacDonald, Bruce, and Broadbent, Elizabeth. The role of healthcare robots for older people at home: A review. *International Journal of Social Robotics*, 6(4):575–591, 2014. doi: 10.1007/s12369-014-0242-2. URL <https://doi.org/10.1007/s12369-014-0242-2>.
- Roesler, Eileen, Manzey, Dietrich, and Onnasch, Linda. A meta-analysis on the effectiveness of anthropomorphism in human-robot interaction. *Science Robotics*, 6(58):eabj5425, 2021. doi: 10.14279/depositonce-12447. URL <https://doi.org/10.14279/depositonce-12447>.
- Roesler, Eileen, Naendrup-Poell, Lara, Manzey, Dietrich, and Onnasch, Linda. Why context matters: The influence of application domain on preferred degree of anthropomorphism and gender attribution in human–robot interaction. *International Journal of Social Robotics*, 14: 1155–1166, 2022. doi: 10.14279/depositonce-15458. URL <https://doi.org/10.14279/depositonce-15458>.
- Rohlfing, Katharina, Brand, R. J., and Gogate, L. J. Multimodal motherese. In *Symposium at the X International Congress for Studies in Child Language IASCL 2005*, 2005. URL <https://pub.uni-bielefeld.de/record/2618244>.
- Ros, Raquel, Lemaignan, Séverin, Sisbot, E. Akin, Alami, Rachid, Steinwender, Jasmin, Hamann, Katharina, and Warneken, Felix. Which one? Grounding the referent based on efficient human-robot interaction. In *19th International Symposium in Robot and Human Interactive Communication*, pages 570–575. Institute of Electrical and Electronics Engineers, Piscataway, NJ, 2010. ISBN 1944-9445. doi: 10.1109/ROMAN.2010.5598719. URL <http://doi.org/10.1109/ROMAN.2010.5598719>.
- Rossi, Silvia, Ferland, François, and Tapus, Adriana. User profiling and behavioral adaptation for HRI: A survey. *Pattern Recognition Letters*, 99:3–12, 2017. ISSN 0167-8655. doi: <https://doi.org/10.1016/j.patrec.2017.06.002>. URL [www.sciencedirect.com/science/article/pii/S0167865517301976](http://www.sciencedirect.com/science/article/pii/S0167865517301976).
- Rothe, Rasmus, Timofte, Radu, and Gool, Luc Van. Deep expectation of real and apparent age from a single image without facial landmarks. *International Journal of Computer Vision (IJCV)*, 126(2):144–157, 2016. doi: 10.1007/s11263-016-0940-3. URL <https://doi.org/10.1007/s11263-016-0940-3>.
- Rothenbücher, Dirk, Li, Jamy, Sirkin, David, Mok, Brian, and Ju, Wendy. Ghost driver: A field study investigating the interaction between pedestrians and driverless vehicles. In *25th IEEE International Symposium on Robot and Human Interactive Communication*, pages 795–802. Institute of Electrical and Electronics Engineers, Piscataway, NJ, 2016. ISBN 978-1-5090-3930-2. doi: 10.1109/ROMAN.2016.7745210. URL <https://doi.org/10.1109/ROMAN.2016.7745210>.
- Ruijten, Peter A. M., Terken, Jacques M. B., and Chandramouli, Sanjeev N. Enhancing trust in autonomous vehicles through intelligent user interfaces that mimic human behavior. *Multimodal Technologies and Interaction*, 2(4):62, 2018. doi: 10.3390/mti2040062. URL <https://doi.org/10.3390/mti2040062>.

- Russell, James A. A circumplex model of affect. *Journal of Personality and Social Psychology*, 39(6):1161–1178, 1980. doi: 10.1037/h0077714. URL <https://doi.org/10.1037/h0077714>.
- Russell, James A., and Barrett, Lisa Feldman. Core affect, prototypical emotional episodes, and other things called emotion: Dissecting the elephant. *Journal of Personality and Social Psychology*, 76(5):805, 1999. doi: 10.1037//0022-3514.76.5.805. URL <https://doi.org/10.1037//0022-3514.76.5.805>.
- Russell, James A., Lewicka, Maria, and Niit, Toomas. A cross-cultural study of a circumplex model of affect. *Journal of Personality and Social Psychology*, 57(5):848–856, 1989. doi: 10.1037/0022-3514.57.5.848. URL <https://doi.org/10.1037/0022-3514.57.5.848>.
- Russell, Stuart, and Norvig, Peter. *Artificial Intelligence: A Modern Approach*. Pearson, Essex, UK, 4th edition, 2022. ISBN 978-1292401133. URL [www.worldcat.org/oclc/1242911311](http://www.worldcat.org/oclc/1242911311).
- Rutherford, Mel D., and Towns, Ashley M. Scan path differences and similarities during emotion perception in those with and without autism spectrum disorders. *Journal of Autism and Developmental Disorders*, 38(7):1371–1381, 2008. doi: 10.1007/s10803-007-0525-7. URL <https://doi.org/10.1007/s10803-007-0525-7>.
- Rymarczyk, Krystyna, Żurawski, Łukasz, Jankowiak-Siuda, Kamila, and Szatkowska, Iwona. Neural correlates of facial mimicry: simultaneous measurements of EMG and BOLD responses during perception of dynamic compared to static facial expressions. *Frontiers in Psychology*, 9:52, 2018. doi: 10.3389/fpsyg.2018.00052. URL <https://doi.org/10.3389/fpsyg.2018.00052>.
- Šabanović, Selma. Imagine all the robots: Developing a critical practice of cultural and disciplinary traversals in social robotics. PhD thesis, Doctoral Thesis Faculty of Rensselaer Polytechnic Institute, 2007. URL <https://hdl.handle.net/20.500.13015/4057>.
- Šabanović, Selma. Emotion in robot cultures: Cultural models of affect in social robot design. In *Proceedings of the Conference on Design & Emotion (D&E2010)*, pages 4–11, 2010. doi: 10.5281/zenodo.2596814. URL <https://doi.org/10.5281/zenodo.2596814>.
- Šabanović, Selma, and Chang, Wan-Ling. Socializing robots: Constructing robotic sociality in the design and use of the assistive robot PARO. *AI & Society*, 31(4):537–551, 2016. doi: 10.1007/s00146-015-0636-1. URL <https://doi.org/10.1007/s00146-015-0636-1>.
- Šabanović, Selma, Michalowski, Marek P., and Simmons, Reid. Robots in the wild: Observing human-robot social interaction outside the lab. In *9th IEEE International Workshop on Advanced Motion Control*, pages 596–601. Institute of Electrical and Electronics Engineers, Piscataway, NJ, 2006. ISBN 0-7803-9511-1. doi: 10.1109/AMC.2006.1631758. URL <https://doi.org/10.1109/AMC.2006.1631758>.
- Šabanović, Selma, Reeder, Sarah M., and Kechavarzi, Bobak. Designing robots in the wild: In situ prototype evaluation for a break management robot. *Journal of Human-Robot Interaction*, 3(1):70–88, 2014. ISSN 2163-0364. doi: 10.5898/JHRI.3.1.Sabanovic. URL <https://doi.org/10.5898/JHRI.3.1.Sabanovic>.
- Šabanović, Selma, Chang, Wan-Ling, Bennett, Casey C., Piatt, Jennifer A., and Hakken, David. A robot of my own: Participatory design of socially assistive robots for independently living older adults diagnosed with depression. In *International Conference on Human Aspects of IT for the Aged Population*, pages 104–114. Springer, Cham Switzerland, 2015. ISBN 978-3-319-20891-6. doi: 10.1007/978-3-319-20892-3\_11. URL [https://doi.org/10.1007/978-3-319-20892-3\\_11](https://doi.org/10.1007/978-3-319-20892-3_11).
- Sabel, Charles F. Studied trust: Building new forms of cooperation in a volatile economy. *Human Relations*, 46(9):1133–1170, 1993. doi: 10.1177/00187267930460090. URL <https://doi.org/10.1177/00187267930460090>.
- Sacks, Harvey, Schegloff, Emanuel A., and Jefferson, Gail. A simplest systematics for the organization of turn-taking for conversation. *Language*, 50(4):696–735, 1974. doi: 10.2307/412243. URL <https://doi.org/10.2307/412243>.
- Saerbeck, Martin, and Bartneck, Christoph. Perception of affect elicited by robot motion. In *5th ACM/IEEE International Conference on Human-Robot Interaction*, pages 53–60. Association for Computing Machinery, New York, 2010. ISBN 978-1-4244-4893-7. doi: 10.1145/1734454.1734473. URL <https://doi.org/10.1145/1734454.1734473>.

- Saerbeck, Martin, Schut, Tom, Bartneck, Christoph, and Janse, Maddy. Expressive robots in education—Varying the degree of social supportive behavior of a robotic tutor. In *28th ACM Conference on Human Factors in Computing Systems (CHI2010)*, pages 1613–1622. Association for Computing Machinery, New York, 2010. ISBN 978-1-60558-929-9. doi: 10.1145/1753326.1753567. URL <https://doi.org/10.1145/1753326.1753567>.
- Sakamoto, Daisuke, Kanda, Takayuki, Ono, Tetsuo, Ishiguro, Hiroshi, and Hagita, Norihiro. Android as a telecommunication medium with a human-like presence. In *2nd ACM/IEEE International Conference on Human-Robot Interaction*, pages 193–200. Institute of Electrical and Electronics Engineers, Piscataway, NJ, 2007. ISBN 978-1-59593-617-2. doi: 10.1145/1228716.1228743. URL <https://doi.org/10.1145/1228716.1228743>.
- Salem, Maha, Eyssel, Friederike, Rohlffing, Katharina, Kopp, Stefan, and Joublin, Frank. To err is human(-like): Effects of robot gesture on perceived anthropomorphism and likability. *International Journal of Social Robotics*, 5(3):313–323, 2013. doi: 10.1007/s12369-013-0196-9. URL <https://doi.org/10.1007/s12369-013-0196-9>.
- Salvini, P., Ciaravella, G., Yu, W., Ferri, G., Manzi, A., Mazzolai, B., Laschi, C., Oh, S. R., and Dario, P. How safe are service robots in urban environments? Bullying a robot. In *19th International Symposium in Robot and Human Interactive Communication*, pages 368–374. Institute of Electrical and Electronics Engineers, Piscataway, NJ, 2010. ISBN 978-1-4244-7991-7. doi: 10.1109/ROMAN.2010.5654677. URL <http://doi.org/10.1109/ROMAN.2010.5654677>.
- Sandoval, Eduardo Benítez, Brandstatter, Jürgen, Yalcin, Utku, and Bartneck, Christoph. Robot likeability and reciprocity in human robot interaction: Using ultimatum game to determinate reciprocal likeable robot strategies. *International Journal of Social Robotics*, 13(4):851–862, 2021. doi: 10.1007/s12369-020-00658-5. URL <https://doi.org/10.1007/s12369-020-00658-5>.
- Sanghvi, Jyotirmay, Castellano, Ginevra, Leite, Iolanda, Pereira, André, McOwan, Peter W., and Paiva, Ana. Automatic analysis of affective postures and body motion to detect engagement with a game companion. In *6th ACM/IEEE International Conference on Human-Robot Interaction*, pages 305–311. Institute of Electrical and Electronics Engineers, Piscataway, NJ, 2011. ISBN 978-1-4503-0561-7. doi: 10.1145/1957656.1957781. URL <https://doi.org/10.1145/1957656.1957781>.
- Sargent, Porter Edward. *The New Immoralities: Clearing the Way for a New Ethics*. Porter Sargent, Boston, MA, 2013. ISBN 978-1258541880. URL <http://worldcat.org/oclc/3794581>.
- Satake, Satoru, Kanda, Takayuki, Glas, Dylan F., Imai, Michita, Ishiguro, Hiroshi, and Hagita, Norihiro. How to approach humans? Strategies for social robots to initiate interaction. In *4th ACM/IEEE International Conference on Human-Robot Interaction*, pages 109–116. Association for Computing Machinery, New York, 2009. ISBN 978-1-60558-404-1. doi: 10.1145/1514095.1514117. URL <https://doi.org/10.1145/1514095.1514117>.
- Sauppé, Allison, and Mutlu, Bilge. The social impact of a robot co-worker in industrial settings. In *33rd Annual ACM Conference on Human Factors in Computing Systems*, pages 3613–3622. Association for Computing Machinery, New York, 2015. ISBN 978-1-4503-3145-6. doi: 10.1145/2702123.2702181. URL <https://doi.org/10.1145/2702123.2702181>.
- Scassellati, Brian. Imitation and mechanisms of joint attention: A developmental structure for building social skills on a humanoid robot. In L., Nehaniv C., editor, *Computation for Metaphors, Analogy, and Agents*, volume 1562 of Lecture Notes in Computer Science, pages 176–195. Springer, Berlin, 1999. ISBN 978-3-540-65959-4. doi: 10.1007/3-540-48834-0\_11. URL [https://doi.org/10.1007/3-540-48834-0\\_11](https://doi.org/10.1007/3-540-48834-0_11).
- Scassellati, Brian. Investigating models of social development using a humanoid robot. In Webb, Barbara, and Consi, Thomas, editors, *Biorobotics: Methods and Applications*, pages 145–168. MIT Press, Cambridge, MA, 2000. ISBN 9780262731416. URL <http://worldcat.org/oclc/807529041>.

- Scassellati, Brian, Admoni, Henny, and Matarić, Maja. Robots for use in autism research. *Annual Review of Biomedical Engineering*, 14:275–294, 2012. doi: 10.1146/annurev-bioeng-071811-150036. URL <https://doi.org/10.1146/annurev-bioeng-071811-150036>.
- Schaefer, Kristin E., Chen, Jessie Y. C., Szalma, James L., and Hancock, Peter A. A meta-analysis of factors influencing the development of trust in automation: Implications for understanding autonomy in future systems. *Human Factors*, 58(3):377–400, 2016. doi: 10.1177/0018720816634228. URL <https://doi.org/10.1177/0018720816634228>.
- Scheepers, Daan, Spears, Russell, Doosje, Bertjan, and Manstead, Antony S. R. The social functions of ingroup bias: Creating, confirming, or changing social reality. *European Review of Social Psychology*, 17(1):359–396, 2006. doi: 10.1080/10463280601088773. URL <https://doi.org/10.1080/10463280601088773>.
- Scherer, Klaus R. Emotion as a multicomponent process: A model and some cross-cultural data. *Review of Personality & Social Psychology*, 5:37–63, 1984. URL <https://doi.org/psycinfo/1986-17269-001>.
- Schilbach, Leonhard, Wilms, Marcus, Eickhoff, Simon B., Romanzetti, Sandro, Tepest, Ralf, Bente, Gary, Shah, N. Jon, Fink, Gereon R., and Vogeley, Kai. Minds made for sharing: Initiating joint attention recruits reward-related neurocircuitry. *Journal of Cognitive Neuroscience*, 22(12):2702–2715, 2010. doi: 10.1162/jocn.2009.21401. URL <https://doi.org/10.1162/jocn.2009.21401>.
- Schmiedel, Theresa, Zhong, Vivienne Jia, and Jäger, Janine. Value-sensitive design for AI technologies: Proposition of basic research principles based on social robotics research. In *Proceedings of the 4th Upper-Rhine Artificial Intelligence Symposium*, pages 74–79. Furtwangen University, Furtwangen im Schwarzwald, 2022. ISBN 978-3-00-073637-7. doi: <http://doi.org/10.13140/RG.2.2.17162.77762>.
- Schnoebelen, Tyler, and Kuperman, Victor. Using Amazon Mechanical Turk for linguistic research. *Psichologija*, 43(4):441–464, 2010. doi: 10.2298/PSI1004441S. URL <https://doi.org/10.2298/PSI1004441S>.
- Schoen, Andrew, Sullivan, Dakota, Zhang, Ze Dong, Rakita, Daniel, and Mutlu, Bilge. Lively: Enabling multimodal, lifelike, and extensible real-time robot motion. In *Proceedings of the 2023 ACM/IEEE International Conference on Human-Robot Interaction*, pages 594–602. Association for Computing Machinery, New York, 2023. doi: 10.1145/3568162.3576982. URL <https://doi.org/10.1145/3568162.3576982>.
- Schonenberg, Billy, and Bartneck, Christoph. Mysterious machines. In *5th ACM/IEEE International Conference on Human-Robot Interaction*, pages 349–350. Association for Computing Machinery, New York, 2010. ISBN 978-1-4244-4893-7. doi: 10.1145/1734454.1734572. URL <https://doi.org/10.1145/1734454.1734572>.
- Schouten, Alexander P., Portegies, Tijs C., Withuis, Iris, Willemsen, Lotte M., and Mazerant-Dubois, Komala. Robomorphism: Examining the effects of telepresence robots on between-student cooperation. *Computers in Human Behavior*, 126:106980, 2022. doi: 10.1016/j.chb.2021.106980. URL <https://doi.org/10.1016/j.chb.2021.106980>.
- Schreier, dir., Jake. *Robot and Frank*. Sony Pictures Home Entertainment, Culver City, CA, 2013. URL [www.imdb.com/title/tt1990314/](http://www.imdb.com/title/tt1990314/).
- Seaborn, Katie, Barbareschi, Giulia, and Chandra, Shruti. Not only WEIRD but “uncanny”? A systematic review of diversity in human–robot interaction research. *International Journal of Social Robotics*, 15:1841–1870, 2023. doi: 10.1007/s12369-023-00968-4. URL <https://doi.org/10.1007/s12369-023-00968-4>.
- Searle, John. The Chinese room. In Wilson, Robert A., and Keil, Frank C., editors, *The MIT Encyclopedia of the Cognitive Sciences*. MIT Press, Cambridge, MA, 1999. URL <https://rintintin.colorado.edu/~vancecd/phil201/Searle.pdf>.
- Searle, John R. Minds, brains and programs. *Behavioral and Brain Sciences*, 3(3):417–457, 1980. doi: 10.1017/S0140525X00005756. URL <https://doi.org/10.1017/S0140525X00005756>.

- Sebo, Sarah, Stoll, Brett, Scassellati, Brian, and Jung, Malte F. Robots in groups and teams: A literature review. *Proceedings of the ACM on Human-Computer Interaction*, 4(CSCW2):1–36, 2020. doi: 10.1145/3415247. URL <https://doi.org/10.1145/3415247>.
- Seeger, Anna-Maria, and Heinzl, Armin. Human versus machine: Contingency factors of anthropomorphism as a trust-inducing design strategy for conversational agents. In *Information Systems and Neuroscience*, pages 129–139. Springer, Cham, Switzerland, 2018. doi: 10.1007/978-3-319-67431-5\_15. URL [https://doi.org/10.1007/978-3-319-67431-5\\_15](https://doi.org/10.1007/978-3-319-67431-5_15).
- Seger, Charles R., Smith, Eliot R., Percy, Elise James, and Conrey, Frederica R. Reach out and reduce prejudice: The impact of interpersonal touch on intergroup liking. *Basic and Applied Social Psychology*, 36(1):51–58, 2014. doi: 10.1080/01973533.2013.856786. URL <https://doi.org/10.1080/01973533.2013.856786>.
- Seibt, Johanna, Vestergaard, Christina, and Damholdt, Malene F. The complexity of human social interactions calls for mixed methods in HRI: Comment on “A Primer for Conducting Experiments in Human-robot Interaction,” by G. Hoffman and X. Zhao. *ACM Transactions on Human-Robot Interaction (THRI)*, 10(1):1–4, 2021. doi: 10.1145/3439715. URL <https://dl.acm.org/doi/fullHtml/10.1145/3439715>.
- Sequeira, Pedro, Alves-Oliveira, Patrícia, Ribeiro, Tiago, Di Tullio, Eugenio, Petisca, Sofia, Melo, Francisco S., Castellano, Ginevra, and Paiva, Ana. Discovering social interaction strategies for robots from restricted-perception Wizard-of-Oz studies. In *2016 11th ACM/IEEE International Conference on Human-Robot Interaction (HRI)*, pages 197–204. Institute of Electrical and Electronics Engineers, Piscataway, NJ, 2016. doi: 10.1109/HRI.2016.7451752. URL <https://doi.org/10.1109/HRI.2016.7451752>.
- Shankar, Aparna, Hamer, Mark, McMunn, Anne, and Steptoe, Andrew. Social isolation and loneliness: Relationships with cognitive function during 4 years of follow-up in the English Longitudinal Study of Ageing. *Psychosomatic Medicine*, 75(2):161–170, 2013. doi: 10.1097/PSY.0b013e31827f09cd. URL <https://doi.org/10.1097/PSY.0b013e31827f09cd>.
- Sharkey, Amanda, and Sharkey, Noel. Granny and the robots: Ethical issues in robot care for the elderly. *Ethics and Information Technology*, 14:27–40, 2012. doi: 10.1007/s10676-010-9234-6. URL <https://doi.org/10.1007/s10676-010-9234-6>.
- Sharkey, Amanda J. C. Should we welcome robot teachers? *Ethics and Information Technology*, 18(4):283–297, 2016. doi: 10.1007/s10676-016-9387-z. URL <https://doi.org/10.1007/s10676-016-9387-z>.
- Sharma, Megha, Hildebrandt, Dale, Newman, Gem, Young, James E., and Eskicioglu, Rasit. Communicating affect via flight path: Exploring use of the Laban effort system for designing affective locomotion paths. In *8th ACM/IEEE International Conference on Human-Robot Interaction*, pages 293–300. Institute of Electrical and Electronics Engineers, Piscataway, NJ, 2013. ISBN 978-1-4673-3099-2. doi: 10.1109/HRI.2013.6483602. URL <https://doi.org/10.1109/HRI.2013.6483602>.
- Shaw-Garlock, Glenda. Looking forward to sociable robots. *International Journal of Social Robotics*, 1(3):249–260, 2009. ISSN 1875-4805. doi: 10.1007/s12369-009-0021-7. URL <https://doi.org/10.1007/s12369-009-0021-7>.
- Shi, Chao, Shiomi, Masahiro, Smith, Christian, Kanda, Takayuki, and Ishiguro, Hiroshi. A model of distributional handing interaction for a mobile robot. In Newman, Paul, Fox, Dieter, and Hsu, David, editors, *Robotics: Science and Systems*, pages 24–28. RSS Proceedings, 2013. URL <http://roboticsproceedings.org/rss09/p55.pdf>.
- Shibata, Takanori. Therapeutic seal robot as biofeedback medical device: Qualitative and quantitative evaluations of robot therapy in dementia care. *Proceedings of the IEEE*, 100(8):2527–2538, 2012. doi: 10.1109/JPROC.2012.2200559. URL <https://doi.org/10.1109/JPROC.2012.2200559>.
- Shibata, Takanori, Wada, Kazuyoshi, Ikeda, Yousuke, and Šabanović, Selma. Cross-cultural studies on subjective evaluation of a seal robot. *Advanced Robotics*, 23(4):443–458, 2009. doi: 10.1163/156855309X408826. URL <https://doi.org/10.1163/156855309X408826>.

- Shiffrin, Richard M., and Schneider, Walter. Automatic and controlled processing revisited. *Psychological Review*, 91(2):269–276, 1984. doi: 10.1037/0033-295X.91.2.269. URL <https://psycnet.apa.org/doi/10.1037/0033-295X.91.2.269>.
- Shiomi, Masahiro, Kanda, Takayuki, Ishiguro, Hiroshi, and Hagita, Norihiro. Interactive humanoid robots for a science museum. In *Proceedings of the 1st ACM SIGCHI/SIGART Conference on Human-Robot Interaction*, pages 305–312. Association for Computing Machinery, New York, 2006. ISBN 1-59593-294-1. doi: 10.1145/1121241.1121293. URL <http://doi.acm.org/10.1145/1121241.1121293>.
- Shiomi, Masahiro, Zanlungo, Francesco, Hayashi, Kotaro, and Kanda, Takayuki. Towards a socially acceptable collision avoidance for a mobile robot navigating among pedestrians using a pedestrian model. *International Journal of Social Robotics*, 6(3):443–455, 2014. doi: 10.1007/s12369-014-0238-y. URL <https://doi.org/10.1007/s12369-014-0238-y>.
- Shiwa, Toshiyuki, Kanda, Takayuki, Imai, Michita, Ishiguro, Hiroshi, and Hagita, Norihiro. How quickly should communication robots respond? In *2008 3rd ACM/IEEE International Conference on Human-Robot Interaction (HRI)*, pages 153–160. Institute of Electrical and Electronics Engineers, Piscataway, NJ, 2008. URL <https://doi.org/10.1145/1349822.1349843>.
- Shourmasti, Elaheh Shahmir, Colomo-Palacios, Ricardo, Holone, Harald, and Demi, Selina. User experience in social robots. *Sensors*, 21(15):5052, 2021. doi: 10.3390/s21155052. URL <https://doi.org/10.3390/s21155052>.
- Siciliano, Bruno, and Khatib, Oussama. *Springer Handbook of Robotics*. Springer, Berlin, 2016. ISBN 9783319325507. URL [www.worldcat.org/oclc/945745190](http://worldcat.org/oclc/945745190).
- Sidnell, Jack. *Conversation Analysis: An Introduction*, volume 45. John Wiley & Sons, New York, 2011. ISBN 978-1405159012. URL <http://worldcat.org/oclc/973423100>.
- Sidner, Candace L., Lee, Christopher, Kidd, Cory D., Lesh, Neal, and Rich, Charles. Explorations in engagement for humans and robots. *Artificial Intelligence*, 166(1–2):140–164, 2005. doi: 10.1016/j.artint.2005.03.005. URL <https://doi.org/10.1016/j.artint.2005.03.005>.
- Simon, Herbert Alexander. *The Sciences of the Artificial*. MIT Press, Cambridge, MA, 3rd edition, 1996. ISBN 0262691914. URL <http://worldcat.org/oclc/552080160>.
- Singer, Peter W. *Wired for War: The Robotics Revolution and Conflict in the Twenty-First Century*. Penguin, New York, 2009. ISBN 9781594201981. URL <http://worldcat.org/oclc/857636246>.
- Singh, Ashish, and Young, James E. Animal-inspired human-robot interaction: A robotic tail for communicating state. In *7th ACM/IEEE International Conference on Human-Robot Interaction*, pages 237–238. Institute of Electrical and Electronics Engineers, Piscataway, NJ, 2012. ISBN 978-1-4503-1063-5. doi: 10.1145/2157689.2157773. URL <https://doi.org/10.1145/2157689.2157773>.
- Sirkin, David, Mok, Brian, Yang, Stephen, and Ju, Wendy. Mechanical ottoman: How robotic furniture offers and withdraws support. In *10th Annual ACM/IEEE International Conference on Human-Robot Interaction*, pages 11–18. Association for Computing Machinery, New York, 2015. ISBN 978-1-4503-2883-8. doi: 10.1145/2696454.2696461. URL <https://doi.org/10.1145/2696454.2696461>.
- Sisbot, Emrah Akin, Marin-Urias, Luis F., Alami, Rachid, and Simeon, Thierry. A human aware mobile robot motion planner. *IEEE Transactions on Robotics*, 23(5):874–883, 2007. doi: 10.1109/TRO.2007.904911. URL <https://doi.org/10.1109/TRO.2007.904911>.
- Siu, Ka-Chun, Suh, Irene H, Mukherjee, Mukul, Oleynikov, Dmitry, and Stergiou, Nick. The effect of music on robot-assisted laparoscopic surgical performance. *Surgical Innovation*, 17(4):306–311, 2010. doi: 10.1177/1553350610381087. URL <https://doi.org/10.1177/1553350610381087>.
- Sloman, Steven A. The empirical case for two systems of reasoning. *Psychological Bulletin*, 119(1):3–22, 1996. doi: 10.1037/0033-2909.119.1.3. URL <https://doi.org/10.1037/0033-2909.119.1.3>.

- Smith, Aaron. US views of technology and the future: Science in the next 50 years. Pew Research Center, April 17, 2014. URL <http://assets.pewresearch.org/wp-content/uploads/sites/14/2014/04/US-Views-of-Technology-and-the-Future.pdf>.
- Smith, Colin Tucker, and De Houwer, Jan. The impact of persuasive messages on iat performance is moderated by source attractiveness and likeability. *Social Psychology*, 45(6):437, 2014. doi: 10.1027/1864-9335/a000208. URL <https://doi.org/10.1027/1864-9335/a000208>.
- Smith, Eliot R., and DeCoster, Jamie. Dual-process models in social and cognitive psychology: Conceptual integration and links to underlying memory systems. *Personality and Social Psychology Review*, 4(2):108–131, 2000. doi: 10.1207/S15327957PSPR0402\_01. URL [https://doi.org/10.1207/S15327957PSPR0402\\_01](https://doi.org/10.1207/S15327957PSPR0402_01).
- Solon, Olivia. Roomba creator responds to reports of “Poopocalypse”: “We see this a lot”. *The Guardian*, 2016. URL [www.theguardian.com/technology/2016/aug/15/roomba-robot-vacuum-poopocalypse-facebook-post](http://www.theguardian.com/technology/2016/aug/15/roomba-robot-vacuum-poopocalypse-facebook-post).
- Sosnowski, Stefan, Bittermann, Ansgar, Kuhnlenz, Kolja, and Buss, Martin. Design and evaluation of emotion-display EDDIE. In *IEEE/RSJ International Conference on Intelligent Robots and Systems*, pages 3113–3118. Institute of Electrical and Electronics Engineers, Piscataway, NJ, 2006. ISBN 1-4244-0258-1. doi: 10.1109/IROS.2006.282330. URL <https://doi.org/10.1109/IROS.2006.282330>.
- Sparrow, Robert. Robotic weapons and the future of war. In Tripodi, Paolo, and Wolfendale, Jessica, editors, *New Wars and New Soldiers: Military Ethics in the Contemporary World*, pages 117–133. Ashgate, Surrey, UK, 2011. ISBN 978-1-4094-0105-6. URL <http://worldcat.org/oclc/960210186>.
- Sparrow, Robert. Robots, rape, and representation. *International Journal of Social Robotics*, 9(4):465–477, 2017. ISSN 1875-4805. doi: 10.1007/s12369-017-0413-z. URL <https://doi.org/10.1007/s12369-017-0413-z>.
- Sparrow, Robert, and Howard, Mark. When human beings are like drunk robots: Driverless vehicles, ethics, and the future of transport. *Transportation Research Part C: Emerging Technologies*, 80:206–215, 2017. doi: 10.1016/j.trc.2017.04.014. URL <https://doi.org/10.1016/j.trc.2017.04.014>.
- Sparrow, Robert, and Sparrow, Linda. In the hands of machines? The future of aged care. *Minds and Machines*, 16(2):141–161, 2006. doi: 10.1007/s11023-006-9030-6. URL <https://doi.org/10.1007/s11023-006-9030-6>.
- Spatola, Nicolas, and Wudarczyk, Olga A. Ascribing emotions to robots: Explicit and implicit attribution of emotions and perceived robot anthropomorphism. *Computers in Human Behavior*, 124:106934, 2021. doi: 10.1016/j.chb.2021.106934. URL <https://doi.org/10.1016/j.chb.2021.106934>.
- Spatola, Nicolas, Kühnlenz, Barbara, and Cheng, Gordon. Perception and evaluation in human–robot interaction: The human–robot interaction evaluation scale (HRIES)—A multicomponent approach of anthropomorphism. *International Journal of Social Robotics*, 13(7):1517–1539, 2021. doi: 10.1007/s12369-020-00667-4. URL <https://doi.org/10.1007/s12369-020-00667-4>.
- Spatola, Nicolas, Marchesi, Serena, and Wykowska, Agnieszka. Different models of anthropomorphism across cultures and ontological limits in current frameworks the integrative framework of anthropomorphism. *Frontiers in Robotics and AI*, 9:863319, 2022. doi: 10.3389/frobt.2022.863319. URL <https://doi.org/10.3389/frobt.2022.863319>.
- Spexard, Thorsten, Li, Shuyin, Wrede, Britta, Fritsch, Jannik, Sagerer, Gerhard, Booij, Olaf, Zivkovic, Zoran, Terwijn, Bas, and Kroese, Ben. BIRON, where are you? Enabling a robot to learn new places in a real home environment by integrating spoken dialog and visual localization. In *IEEE/RSJ International Conference on Intelligent Robots and Systems*, pages 934–940. Institute of Electrical and Electronics Engineers, Piscataway, NJ, 2006. ISBN 1-4244-0258-1. doi: 10.1109/IROS.2006.281770. URL <https://doi.org/10.1109/IROS.2006.281770>.

- Stahl, Bernd Carsten, and Coeckelbergh, Mark. Ethics of healthcare robotics: Towards responsible research and innovation. *Robotics and Autonomous Systems*, 86:152–161, 2016. doi: 10.1016/j.robot.2016.08.018. URL <https://doi.org/10.1016/j.robot.2016.08.018>.
- Stapels, Julia G., and Eyssel, Friederike. Let's not be indifferent about robots: Neutral ratings on bipolar measures mask ambivalence in attitudes towards robots. *PloS One*, 16(1):e0244697, 2021. doi: 10.1371/journal.pone.0244697. URL <https://doi.org/10.1371/journal.pone.0244697>.
- Stapels, Julia G., and Eyssel, Friederike. Robocalypse? Yes, please! The role of robot autonomy in the development of ambivalent attitudes towards robots. *International Journal of Social Robotics*, 14(3):683–697, 2022. doi: 10.1007/s12369-021-00817-2. URL <https://doi.org/10.1007/s12369-021-00817-2>.
- Stedeman, Alison, Sutherland, Dean, and Bartneck, Christoph. *Learning ROILA*. CreateSpace, Charleston, SC, 2011. ISBN 978-1466494978.
- Steels, Luc. The artificial life roots of artificial intelligence. *Artificial Life*, 1(1/2):75–110, 1993. doi: 10.1162/artl.1993.1.1\_2.75. URL [https://doi.org/10.1162/artl.1993.1.1\\_2.75](https://doi.org/10.1162/artl.1993.1.1_2.75).
- Steil, Jochen, Finas, Dominique, Beck, Susanne, Manzeschke, Arne, and Haux, Reinhold. Robotic systems in operating theaters: New forms of team-machine interaction in health care. *Methods of Information in Medicine*, 58(S 01):e14–e25, 2019. doi: 10.1055/s-0039-1692465. URL <https://doi.org/10.1055/s-0039-1692465>.
- Stein, Nancy L., and Oatley, Keith. Basic emotions: Theory and measurement. *Cognition & Emotion*, 6(3–4):161–168, 1992. doi: 10.1080/02699939208411067. URL <https://doi.org/10.1080/02699939208411067>.
- Stel, Mariëlle, Van Baaren, Rick B., and Vonk, Roos. Effects of mimicking: Acting prosocially by being emotionally moved. *European Journal of Social Psychology*, 38(6):965–976, 2008. doi: 10.1002/ejsp.472. URL <https://doi.org/10.1002/ejsp.472>.
- Stoll, Marlene, Kerwer, Martin, Lieb, Klaus, and Chasiotis, Anita. Plain language summaries: A systematic review of theory, guidelines and empirical research. *PloS One*, 17(6):e0268789, 2022. doi: 10.1371/journal.pone.0268789. URL <https://doi.org/10.1371/journal.pone.0268789>.
- Strack, Fritz, Martin, Leonard L., and Stepper, Sabine. Inhibiting and facilitating conditions of the human smile: A nonobtrusive test of the facial feedback hypothesis. *Journal of Personality and Social Psychology*, 54(5):768, 1988. doi: 10.1037/0022-3514.54.5.768. URL <https://doi.org/10.1037/0022-3514.54.5.768>.
- Strömbergsson, Sofia, Hjalmarsson, Anna, Edlund, Jens, and House, David. Timing responses to questions in dialogue. In *Proceedings of Interspeech*, pages 2584–2588. International Speech Communication Association, 2013. URL [www.isca-speech.org/archive/interspeech\\_2013/strombergsson13\\_interspeech.html](http://www.isca-speech.org/archive/interspeech_2013/strombergsson13_interspeech.html).
- Sugiyama, Osamu, Kanda, Takayuki, Imai, Michita, Ishiguro, Hiroshi, and Hagita, Norihiro. Natural deictic communication with humanoid robots. In *IEEE/RSJ International Conference on Intelligent Robots and Systems*, pages 1441–1448. Institute of Electrical and Electronics Engineers, Piscataway, NJ, 2007. ISBN 978-1-4244-0911-2. doi: 10.1109/IRROS.2007.4399120. URL <https://doi.org/10.1109/IRROS.2007.4399120>.
- Sugitan, Michael, and Hoffman, Guy. Blossom: A handcrafted open-source robot. *Journal of Human-Robot Interaction*, 8(1), 2019. doi: 10.1145/3310356. URL <https://doi.org/10.1145/3310356>.
- Sung, Ja-Young, Guo, Lan, Grinter, Rebecca E., and Christensen, Henrik I. “My Roomba is Rambo”: Intimate home appliances. In *9th International Conference on Ubiquitous Computing*, pages 145–162. Springer-Verlag, Berlin, 2007. ISBN 978-3-540-74852-6. doi: 10.1007/978-3-540-74853-3\_9. URL [https://doi.org/10.1007/978-3-540-74853-3\\_9](https://doi.org/10.1007/978-3-540-74853-3_9).
- Sung, JaYoung, Grinter, Rebecca E., and Christensen, Henrik I. “Pimp my Roomba”: Designing for personalization. In *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems*, pages 193–196. Association for Computing Machinery, New York, 2009. ISBN 978-1-60558-246-7. doi: 10.1145/1518701.1518732. URL <http://doi.acm.org/10.1145/1518701.1518732>.

- Suri, Siddharth, and Watts, Duncan J. Cooperation and contagion in web-based, networked public goods experiments. *PloS One*, 6(3):e16836, 2011. doi: 10.1371/journal.pone.0016836. URL <https://doi.org/10.1371/journal.pone.0016836>.
- Sweigart, Al. *Scratch Programming Playground: Learn to Program by Making Cool Games*. No Starch Press, San Francisco, CA, 2016. ISBN 9781718500211. URL <https://worldcat.org/en/title/1125157436>.
- Szafir, Daniel, Mutlu, Bilge, and Fong, Terry. Communicating directionality in flying robots. In *The 10th Annual ACM/IEEE International Conference on Human-Robot Interaction*, pages 19–26. Association for Computing Machinery, New York, 2015. ISBN 978-1-4503-2883-8. doi: 10.1145/2696454.2696475. URL <https://doi.org/10.1145/2696454.2696475>.
- Taichi, Tajika, Takahiro, Miyashita, Hiroshi, Ishiguro, and Norihiro, Hagita. Automatic categorization of haptic interactions—What are the typical haptic interactions between a human and a robot? In *6th IEEE-RAS International Conference on Humanoid Robots*, pages 490–496. Institute of Electrical and Electronics Engineers, Piscataway, NJ, 2006. ISBN 1-4244-0199-2. doi: 10.1109/ICHR.2006.321318. URL <https://doi.org/10.1109/ICHR.2006.321318>.
- Takayama, Leila, Dooley, Doug, and Ju, Wendy. Expressing thought: Improving robot readability with animation principles. In *Proceedings of the 6th International Conference on Human-Robot Interaction*, pages 69–76. Association for Computing Machinery, New York, 2011. ISBN 978-1-4673-4393-0. doi: 10.1145/1957656.1957674. URL <https://doi.org/10.1145/1957656.1957674>.
- Takayama, Leila A. Throwing voices: Investigating the psychological effects of the spatial location of projected voices. PhD thesis, Stanford University, 2008. URL <https://searchworks.stanford.edu/view/7860025>.
- Tan, Xiang Zhi, Vázquez, Marynel, Carter, Elizabeth J., Morales, Cecilia G., and Steinfeld, Aaron. Inducing bystander interventions during robot abuse with social mechanisms. In *Proceedings of the 13th ACM/IEEE International Conference on Human-Robot Interaction (HRI)*, pages 169–177. Association for Computing Machinery, New York, 2018. doi: 10.1145/3171221.3171247. URL <https://doi.org/10.1145/3171221.3171247>.
- Tanaka, Fumihide, and Kimura, Takeshi. Care-receiving robot as a tool of teachers in child education. *Interaction Studies*, 11(2):263–268, 2010. doi: 10.1075/is.11.2.14tan. URL <https://doi.org/10.1075/is.11.2.14tan>.
- Tanaka, Fumihide, Cicourel, Aaron, and Movellan, Javier R. Socialization between toddlers and robots at an early childhood education center. *Proceedings of the National Academy of Sciences*, 104(46):17954–17958, 2007. doi: 10.1073/pnas.0707769104. URL <https://doi.org/10.1073/pnas.0707769104>.
- Tapus, Adriana, Mataric, Maja J., and Scassellati, Brian. Socially assistive robotics [Grand Challenges of Robotics]. *IEEE Robotics & Automation Magazine*, 14(1):35–42, 2007. doi: 10.1109/MRA.2007.339605. URL <https://doi.org/10.1109/MRA.2007.339605>.
- Tapus, Adriana, Peca, Andreea, Aly, Amir, Pop, Cristina, Jisa, Lavinia, Pintea, Sebastian, Rusu, Alina S., and David, Daniel O. Children with autism social engagement in interaction with Nao, an imitative robot: A series of single case experiments. *Interaction Studies*, 13(3): 315–347, 2012. doi: 10.1075/is.13.3.01tap. URL <https://doi.org/10.1075/is.13.3.01tap>.
- Taylor, Ross, Kardas, Marcin, Cucurull, Guillem, Scialom, Thomas, Hartshorn, Anthony, Saravia, Elvis, Poulton, Andrew, Kerkez, Viktor, and Stojnic, Robert. Galactica: A large language model for science. arXiv, arXiv:2211.09085, 2022. doi: 10.48550/ARXIV.2211.09085. URL <https://arxiv.org/abs/2211.09085>.
- Temtsin, Sharon, Proudfoot, Diane, and Bartneck, C. A bona fide Turing test. In *Proceedings of the Human-Agent Interaction Conference*, pages 250–252. Association for Computing Machinery, New York, 2022. doi: 10.1145/3527188.3563918. URL <https://doi.org/10.1145/3527188.3563918>.
- Thellman, Sam, de Graaf, Maartje, and Ziemke, Tom. Mental state attribution to robots: A systematic review of conceptions, methods, and findings. *ACM Transactions on Human-*

- Robot Interaction (THRI)*, 11(4):1–51, 2022. doi: 10.1145/3526112. URL <https://doi.org/10.1145/3526112>.
- Thill, Serge, Pop, Cristina A., Belpaeime, Tony, Ziemke, Tom, and Vanderborght, Bram. Robot-assisted therapy for autism spectrum disorders with (partially) autonomous control: Challenges and outlook. *Paladyn, Journal of Behavioral Robotics*, 3(4):209–217, 2012. doi: 10.2478/s13230-013-0107-7. URL <https://doi.org/10.2478/s13230-013-0107-7>.
- Thomas, Frank, Johnston, Ollie, and Frank, Thomas. *The Illusion of Life: Disney Animation*. Hyperion, New York, 1995. ISBN 978-0786860708. URL <http://worldcat.org/oclc/974772586>.
- Thrun, Sebastian, Burgard, Wolfram, and Fox, Dieter. *Probabilistic Robotics*. MIT Press, Cambridge, MA, 2005. ISBN 978-0-2622-0162-9. URL <http://worldcat.org/oclc/705585641>.
- Togler, Jonas, Hemmert, Fabian, and Wettach, Reto. Living interfaces: The thrifty faucet. In *Proceedings of the 3rd International Conference on Tangible and Embedded Interaction*, pages 43–44. Association for Computing Machinery, New York, 2009. ISBN 978-1-60558-493-5. doi: 10.1145/1517664.1517680. URL <https://doi.org/10.1145/1517664.1517680>.
- Trafton, J. Gregory, Cassimatis, Nicholas L., Bugajska, Magdalena D., Brock, Derek P., Mintz, Farilee E., and Schultz, Alan C. Enabling effective human-robot interaction using perspective-taking in robots. *IEEE Transactions on Systems, Man, and Cybernetics. Part A: Systems and Humans*, 35(4):460–470, 2005. doi: 10.1109/TSMCA.2005.850592. URL <https://doi.org/10.1109/TSMCA.2005.850592>.
- Trappi, Robert, Petta, Paolo, and Payr, Sabine. *Emotions in Humans and Artifacts*. MIT Press, Cambridge, MA, 2003. ISBN 978-0262201421. URL <https://mitpress.mit.edu/books/emotions-humans-and-artifacts>.
- Triebel, Rudolph, Arras, Kai, Alami, Rachid, Beyer, Lucas, Breuers, Stefan, Chatila, Raja, Chetouani, Mohamed, Cremers, Daniel, Evers, Vanessa, Fiore, Michelangelo, et al. Spencer: A socially aware service robot for passenger guidance and help in busy airports. In *Field and Service Robotics*, pages 607–622. Springer, Cham, Switzerland, 2016. ISBN 978-3-319-27700-4. doi: 10.1007/978-3-319-27702-8\_40. URL [https://doi.org/10.1007/978-3-319-27702-8\\_40](https://doi.org/10.1007/978-3-319-27702-8_40).
- Troshani, Indrit, Rao Hill, Sally, Sherman, Claire, and Arthur, Damien. Do we trust in AI? Role of anthropomorphism and intelligence. *Journal of Computer Information Systems*, 61(5):481–491, 2021. doi: 10.1080/08874417.2020.1788473. URL <https://doi.org/10.1080/08874417.2020.1788473>.
- Tunstall, Lewis, Von Werra, Leandro, and Wolf, Thomas. *Natural Language Processing with Transformers*. O'Reilly, Sebastopol, CA, 2022. ISBN 9781098136796. URL [www.worldcat.org/title/1321899597](http://www.worldcat.org/title/1321899597).
- Turing, Alan M. Computing machinery and intelligence. *Mind*, 59(236):433–460, 1950. doi: 10.1007/978-1-4020-6710-5\_3. URL [https://doi.org/10.1007/978-1-4020-6710-5\\_3](https://doi.org/10.1007/978-1-4020-6710-5_3).
- Turkle, Sherry. *Reclaiming Conversation: The Power of Talk in a Digital Age*. Penguin, New York, 2016. ISBN 978-0143109792. URL <http://worldcat.org/oclc/960703115>.
- Turkle, Sherry. *Alone Together: Why We Expect More from Technology and Less from Each Other*. Basic Books, New York, 2017. ISBN 9780465031467. URL [www.basicbooks.com/titles/sherry-turkle/alone-together/9780465093663/](http://www.basicbooks.com/titles/sherry-turkle/alone-together/9780465093663/).
- Urquiza-Haas, Esmeralda G., and Kotrschal, Kurt. The mind behind anthropomorphic thinking: attribution of mental states to other species. *Animal Behaviour*, 109:167–176, 2015. doi: 10.1016/j.anbehav.2015.08.011. URL <https://doi.org/10.1016/j.anbehav.2015.08.011>.
- Vaes, Jeroen, Paladino, Maria Paola, Castelli, Luigi, Leyens, Jacques-Philippe, and Giovanazzi, Anna. On the behavioral consequences of infrahumanization: The implicit role of uniquely human emotions in intergroup relations. *Journal of Personality and Social Psychology*, 85(6):1016–1034, 2003. doi: 10.1037/0022-3514.85.6.1016. URL <https://psycnet.apa.org/do/i/10.1037/0022-3514.85.6.1016>.

- Vaillan, George E. *Triumphs of Experience: The Men of the Harvard Grant Study*. Belknap Press, Cambridge, MA, 2015. ISBN 978-0674503816. URL <http://worldcat.org/oclc/910969527>.
- van Breemen, Albert, Yan, Xue, and Meerbeek, Bernt. iCat: An animated user-interface robot with personality. In *Proceedings of the 4th International Joint Conference on Autonomous Agents and Multiagent Systems*, pages 143–144. Association for Computing Machinery, New York, 2005. ISBN 1-59593-093-0. doi: 10.1145/1082473.1082823. URL <https://doi.org/10.1145/1082473.1082823>.
- Van de Schoot, Rens, Winter, Sonja D., Ryan, Oisín, Zondervan-Zwijnenburg, Mariëlle, and Depaoli, Sarah. A systematic review of Bayesian articles in psychology: The last 25 years. *Psychological Methods*, 22(2):217, 2017. doi: 10.1037/met0000100. URL <http://doi.org/10.1037/met0000100>.
- van den Oord, Aaron, Dieleman, Sander, Zen, Heiga, Simonyan, Karen, Vinyals, Oriol, Graves, Alex, Kalchbrenner, Nal, Senior, Andrew, and Kavukcuoglu, Koray. Wavenet: A generative model for raw audio. arXiv, arXiv:1609.03499, 2016. URL <http://arxiv.org/abs/1609.03499>.
- Van Erp, Jan B. F., and Toet, Alexander. How to touch humans: Guidelines for social agents and robots that can touch. In *Humaine Association Conference on Affective Computing and Intelligent Interaction*, pages 780–785. Institute of Electrical and Electronics Engineers, Piscataway, NJ, 2013. ISBN 978-0-7695-5048-0. doi: 10.1109/ACII.2013.145. URL <https://doi.org/10.1109/ACII.2013.145>.
- van Harreveld, Frenk, Nohlen, Hannah U., and Schneider, Iris K. The ABC of ambivalence: Affective, behavioral, and cognitive consequences of attitudinal conflict. In *Advances in Experimental Social Psychology*, volume 52, pages 285–324. Elsevier, St. Louis, MO, 2015. doi: 10.1016/bs.aesp.2015.01.002. URL <https://doi.org/10.1016/bs.aesp.2015.01.002>.
- Van Wynsberghe, Aimee. *Healthcare Robots: Ethics, Design and Implementation*. Routledge, Milton Park, Abingdon, Oxfordshire, UK, 2016. ISBN 1032098600. URL [www.worldcat.org/title/1246143567](http://www.worldcat.org/title/1246143567).
- Vandeveld, Cesar, Wyffels, Francis, Ciocci, Maria-Cristina, Vanderborght, Bram, and Saldien, Jelle. Design and evaluation of a DIY construction system for educational robot kits. *International Journal of Technology and Design Education*, 26:521–540, 2016. doi: 10.1007/s10798-015-9324-1. URL <https://doi.org/10.1007/s10798-015-9324-1>.
- VanLehn, Kurt. The relative effectiveness of human tutoring, intelligent tutoring systems, and other tutoring systems. *Educational Psychologist*, 46(4):197–221, 2011. doi: 10.1080/00461520.2011.611369. URL <https://doi.org/10.1080/00461520.2011.611369>.
- Venture, Gentiane, Kadone, Hideki, Zhang, Tianxiang, Grèzes, Julie, Berthoz, Alain, and Hicheur, Halim. Recognizing emotions conveyed by human gait. *International Journal of Social Robotics*, 6(4):621–632, 2014. doi: 10.1007/s12369-014-0243-1. URL <https://doi.org/10.1007/s12369-014-0243-1>.
- Vertesi, Janet. *Seeing Like a Rover: How Robots, Teams, and Images Craft Knowledge of Mars*. University of Chicago Press, Chicago, 2015. ISBN 978-0226155968. URL [www.worldcat.org/oclc/904790036](http://www.worldcat.org/oclc/904790036).
- Veruggio, Gianmarco, Operto, Fiorella, and Bekey, George. Roboethics: Social and ethical implications. In Siciliano, Bruno, and Khatib, Oussama, editors, *Springer Handbook of Robotics*, pages 2135–2160. Springer, New York, 2016. ISBN 978-3-319-32550-7. doi: 10.1007/978-3-319-32552-1. URL <https://doi.org/10.1007/978-3-319-32552-1>.
- Vincent, James. A drunk man was arrested for knocking over Silicon Valley's crime-fighting robot. *The Verge*, April 2017. URL [www.theverge.com/2017/4/26/15432280/security-bot-knocked-over-drunk-man-knightscope-k5-mountain-view](http://www.theverge.com/2017/4/26/15432280/security-bot-knocked-over-drunk-man-knightscope-k5-mountain-view).
- Vincenti, Walter G. *What Engineers Know and How They Know It: Analytical Studies from Aeronautical History*. Johns Hopkins Studies in the History of Technology. Johns Hopkins University Press, Baltimore, MD, 1990. ISBN 0801839742. URL <http://worldcat.org/oclc/877307767>.
- Vollmer, Anna-Lisa, Read, Robin, Trippas, Dries, and Belpaeime, Tony. Children conform, adults resist: A robot group induced peer pressure on normative social conformity. *Science*

- Robotics*, 3(21):eaat7111, 2018. doi: 10.1126/scirobotics.aat7111. URL <https://doi.org/10.1126/scirobotics.aat7111>.
- Vredenburg, Karel, Mao, Ji-Ye, Smith, Paul W., and Carey, Tom. A survey of user-centered design practice. In *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems*, pages 471–478. Association for Computing Machinery, New York, 2002. ISBN 1-58113-453-3. doi: 10.1145/503376.503460. URL <https://doi.org/10.1145/503376.503460>.
- Wada, Kazuyoshi, and Shibata, Takanori. Living with seal robots—Its sociopsychological and physiological influences on the elderly at a care house. *IEEE Transactions on Robotics*, 23(5):972–980, 2007. doi: 10.1109/TRO.2007.906261. URL <https://doi.org/10.1109/TRO.2007.906261>.
- Walczek, Jeffrey J., Roper, Karen S., Seemann, Eric, and Humphrey, Angela M. Cognitive mechanisms underlying lying to questions: Response time as a cue to deception. *Applied Cognitive Psychology*, 17(7):755–774, 2003. doi: 10.1002/acp.914. URL <https://doi.org/10.1002/acp.914>.
- Walden, Justin, Jung, Eun Hwa, Sundar, S. Shyam, and Johnson, Ariel Celeste. Mental models of robots among senior citizens: An interview study of interaction expectations and design implications. *Interaction Studies*, 16(1):68–88, 2015. doi: 10.1075/is.16.1.04wal. URL <https://doi.org/10.1075/is.16.1.04wal>.
- Walters, Michael L., Dautenhahn, Kerstin, Te Boekhorst, René, Koay, Kheng Lee, Kaouri, Christina, Woods, Sarah, Nehaniv, Christopher, Lee, David, and Werry, Iain. The influence of subjects' personality traits on personal spatial zones in a human-robot interaction experiment. In *IEEE International Workshop on Robot and Human Interactive Communication*, pages 347–352. Association for Computing Machinery, New York, 2005. ISBN 0-7803-9274-4. URL <https://doi.org/10.1109/ROMAN.2005.1513803>.
- Walters, Michael L., Syrdal, Dag Sverre, Koay, Kheng Lee, Dautenhahn, Kerstin, and Te Boekhorst, René. Human approach distances to a mechanical-looking robot with different robot voice styles. In *RO-MAN 2008—The 17th IEEE International Symposium on Robot and Human Interactive Communication*, pages 707–712. Institute of Electrical and Electronics Engineers, Piscataway, NJ, 2008. doi: 10.1109/ROMAN.2008.4600750. URL <https://doi.org/10.1109/ROMAN.2008.4600750>.
- Walters, Michael L., Dautenhahn, Kerstin, Te Boekhorst, René, Koay, Kheng Lee, Syrdal, Dag Sverre, and Nehaniv, Christopher L. An empirical framework for human-robot proxemics. *Proceedings of New Frontiers in Human-Robot Interaction*, 2009. URL <http://hdl.handle.net/2299/9670>.
- Wang, Lin, Rau, Pei-Luen Patrick, Evers, Vanessa, Robinson, Benjamin Krisper, and Hinds, Pamela. When in Rome: The role of culture & context in adherence to robot recommendations. In *5th ACM/IEEE International Conference on Human-Robot Interaction*, pages 359–366, Piscataway, NJ, USA, 2010. IEEE. ISBN 978-1-4244-4893-7. doi: 10.1109/HRI.2010.5453165. URL <https://doi.org/10.1109/HRI.2010.5453165>.
- Warner, Rebecca M., Malloy, Daniel, Schneider, Kathy, Knoth, Russell, and Wilder, Bruce. Rhythmic organization of social interaction and observer ratings of positive affect and involvement. *Journal of Nonverbal Behavior*, 11(2):57–74, 1987. doi: 10.1007/BF00990958. URL <https://doi.org/10.1007/BF00990958>.
- Watanabe, Miki, Ogawa, Kohki, and Ishiguro, Hiroshi. Can androids be salespeople in the real world? In *Proceedings of the 33rd Annual ACM Conference Extended Abstracts on Human Factors in Computing Systems*, pages 781–788. Association for Computing Machinery, New York, 2015. ISBN 978-1-4503-3146-3. doi: 10.1145/2702613.2702967. URL <https://doi.org/10.1145/2702613.2702967>.
- Wayland, Michael. GM ups spending on EVs and autonomous vehicles by 30% to \$35 billion by 2025 on higher profits. CNBC News, 2021. URL [www.cnbc.com/2021/06/16/gm-ups-spending-on-evs-and-autonomous-vehicles-to-35-billion-by-2025.html](http://www.cnbc.com/2021/06/16/gm-ups-spending-on-evs-and-autonomous-vehicles-to-35-billion-by-2025.html).
- Waymo. Waymo safety report. Report, Waymo, 2020. URL <https://storage.googleapis.com/dc-prod/v1/safety-report/2020-09-waymo-safety-report.pdf>.

- Waytz, Adam, Cacioppo, John, and Epley, Nicholas. Who sees human? The stability and importance of individual differences in anthropomorphism. *Perspectives on Psychological Science*, 5(3):219–232, 2010. doi: 10.1177/1745691610369336. URL <https://doi.org/10.1177/1745691610369336>.
- Waytz, Adam, Heafner, Joy, and Epley, Nicholas. The mind in the machine: Anthropomorphism increases trust in an autonomous vehicle. *Journal of Experimental Social Psychology*, 52: 113–117, 2014. doi: 10.1016/j.jesp.2014.01.005. URL <https://psycnet.apa.org/doi/10.1016/j.jesp.2014.01.005>.
- Whitby, Blay. Sometimes it's hard to be a robot: A call for action on the ethics of abusing artificial agents. *Interacting with Computers*, 20(3):326–333, 2008. doi: 10.1016/j.intcom.2008.02.002. URL <https://doi.org/10.1016/j.intcom.2008.02.002>.
- Whiten, Andrew, Goodall, Jane, McGrew, William C., Nishida, Toshisada, Reynolds, Vernon, Sugiyama, Yukimaru, Tutin, Caroline E. G., Wrangham, Richard W., and Boesch, Christophe. Cultures in chimpanzees. *Nature*, 399(6737):682–685, 1999. doi: 10.1038/21415. URL <https://doi.org/10.1038/21415>.
- Wiese, Eva, Weis, Patrick P., Bigman, Yochanan, Kapsaskis, Kyra, and Gray, Kurt. It's a match: Task assignment in human–robot collaboration depends on mind perception. *International Journal of Social Robotics*, 14(1):141–148, 2022. doi: 10.1007/s12369-021-00771-z. URL <https://doi.org/10.1007/s12369-021-00771-z>.
- Willemse, Christian J. A. M., Huisman, Gijs, Jung, Merel M., van Erp, Jan B. F., and Heylen, Dirk K. J. Observing touch from video: The influence of social cues on pleasantness perceptions. In *International Conference on Human Haptic Sensing and Touch Enabled Computer Applications*, pages 196–205. Springer, Cham, Switzerland, 2016. ISBN 978-3-319-42323-4. doi: 10.1007/978-3-319-42324-1\_20. URL [https://doi.org/10.1007/978-3-319-42324-1\\_20](https://doi.org/10.1007/978-3-319-42324-1_20).
- Williams, Kipling D. Ostracism. *Annual Review of Psychology*, 58(1):425–452, 2007. doi: 10.1146/annurev.psych.58.110405.085641. URL <https://doi.org/10.1146/annurev.psych.58.110405.085641>.
- Williams, Lawrence E., and Bargh, John A. Keeping one's distance: The influence of spatial distance cues on affect and evaluation. *Psychological Science*, 19(3):302–308, 2008. doi: 10.1111/j.1467-9280.2008.02084.x. URL <https://doi.org/10.1111/j.1467-9280.2008.02084.x>.
- Williams, Tom, Thames, Daria, Novakoff, Julia, and Scheutz, Matthias. Thank you for sharing that interesting fact: Effects of capability and context on indirect speech act use in task-based human–robot dialogue. In *Proceedings of the ACM/IEEE International Conference on Human-Robot Interaction*, pages 298–306. Association for Computing Machinery, New York, 2018. ISBN 978-1-4503-4953-6. doi: 10.1145/3171221.3171246. URL <https://doi.org/10.1145/3171221.3171246>.
- Wills, Paul, Baxter, Paul, Kennedy, James, Senft, Emmanuel, and Belpaeime, Tony. Socially contingent humanoid robot head behaviour results in increased charity donations. In *The 11th ACM/IEEE International Conference on Human-Robot Interaction*, pages 533–534. Institute of Electrical and Electronics Engineers, Piscataway, NJ, 2016. ISBN 978-1-4673-8370-7. doi: 10.1109/HRI.2016.7451842. URL <https://doi.org/10.1109/HRI.2016.7451842>.
- Wilson, Daniel H. *How to Survive a Robot Uprising: Tips on Defending Yourself against the Coming Rebellion*. Bloomsbury, London, New York, 2005. ISBN 9781582345925. URL <http://worldcat.org/oclc/1029483559>.
- Winkle, Katie, Caleb-Solly, Praminda, Turton, Ailie, and Bremner, Paul. Social robots for engagement in rehabilitative therapies: Design implications from a study with therapists. In *Proceedings of the ACM/IEEE International Conference on Human-Robot Interaction*, pages 289–297. Association for Computing Machinery, New York, 2018. ISBN 978-1-4503-4953-6. doi: 10.1145/3171221.3171273. URL <https://doi.org/10.1145/3171221.3171273>.

- Winkle, Katie, Lagerstedt, Erik, Torre, Ilaria, and Offenwanger, Anna. 15 years of (Who) man robot interaction: Reviewing the H in human-robot interaction. *ACM Transactions on Human-Robot Interaction*, 12(3):1–28, 2023a. doi: 10.1145/3571718. URL <https://doi.org/10.1145/3571718>.
- Winkle, Katie, McMillan, Donald, Arnelid, Maria, Harrison, Katherine, Balaam, Madeline, Johnson, Ericka, and Leite, Iolanda. Feminist human-robot interaction: Disentangling power, principles and practice for better, more ethical hri. In *Proceedings of the 2023 ACM/IEEE International Conference on Human-Robot Interaction*, pages 72–82. Association for Computing Machinery, New York, 2023b. doi: 10.1145/3568162.3576973. URL <https://doi.org/10.1145/3568162.3576973>.
- Wistort, Ryan, and Breazeal, Cynthia. Tofu: A socially expressive robot character for child interaction. In *8th International Conference on Interaction Design and Children*, pages 292–293. Association for Computing Machinery, New York, 2009. ISBN 978-1-60558-395-2. doi: 10.1145/1551788.1551862. URL <https://doi.org/10.1145/1551788.1551862>.
- Wojciechowska, Anna, Frey, Jeremy, Sass, Sarit, Shafir, Roy, and Cauchard, Jessica R. Collocated human-drone interaction: Methodology and approach strategy. In *2019 14th ACM/IEEE International Conference on Human-Robot Interaction (HRI)*, pages 172–181. Institute of Electrical and Electronics Engineers, Piscataway, NJ, 2019. doi: 10.1109/HRI.2019.8673127. URL <https://doi.org/10.1109/HRI.2019.8673127>.
- Wojciszke, Bogdan. Morality and competence in person-and self-perception. *European Review of Social Psychology*, 16(1):155–188, 2005. doi: 10.1080/10463280500229619. URL <https://doi.org/10.1080/10463280500229619>.
- Wolfe, Jeremy M., Kluender, Keith R., Levi, Dennis M., Bartoshuk, Linda M., Herz, Rachel S., Klatzky, Roberta L., Lederman, Susan J., and Merfeld, Daniel M. *Sensation & Perception*. Sinauer, Sunderland, MA, 2006. ISBN 9780197551967. URL [www.worldcat.org/title/1287073270](http://www.worldcat.org/title/1287073270).
- Wolfert, Pieter, Robinson, Nicole, and Belpaeime, Tony. A review of evaluation practices of gesture generation in embodied conversational agents. *IEEE Transactions on Human-Machine Systems*, 52(3):379–389, 2022. doi: 10.1109/THMS.2022.3149173. URL <https://doi.org/10.1109/THMS.2022.3149173>.
- Wrede, Britta, Fritsch, Jannik, and Rohlfing, Katharina. How can prosody help to learn actions? In *Proceedings of the 4th International Conference on Development and Learning, 2005*, pages 163–163. Institute of Electrical and Electronics Engineers, Piscataway, NJ, 2005. doi: 10.1109/DEVLRN.2005.1490969. URL <https://doi.org/10.1109/DEVLRN.2005.1490969>.
- Wullenkord, Ricarda. Messung und Veränderung von Einstellungen gegenüber Robotern-Untersuchung des Einflusses von imaginierter Kontakt auf implizite und explizite Maße. PhD thesis, University of Bielefeld, 2017. URL <https://pub.uni-bielefeld.de/publication/2913679>.
- Wullenkord, Ricarda, and Eyssel, Friederike. Societal and ethical issues in HRI. *Current Robotics Reports*, 1(3):85–96, 2020. doi: 10.1007/s43154-020-00010-9. URL <https://doi.org/10.1007/s43154-020-00010-9>.
- Wullenkord, Ricarda, Fraune, Marlena R., Eyssel, Friederike, and Šabanović, Selma. Getting in touch: How imagined, actual, and physical contact affect evaluations of robots. In *25th IEEE International Symposium on Robot and Human Interactive Communication*, pages 980–985. Institute of Electrical and Electronics Engineers, Piscataway, NJ, 2016. ISBN 978-1-5090-3930-2. doi: 10.1109/ROMAN.2016.7745228. URL <https://doi.org/10.1109/ROMAN.2016.7745228>.
- Wykowska, Agnieszka. Robots as mirrors of the human mind. *Current Directions in Psychological Science*, 30(1):34–40, 2021. doi: 10.1177/0963721420978609. URL <https://doi.org/10.1177/0963721420978609>.
- Xu, Junchao, Broekens, Joost, Hindriks, Koen, and Neerincx, Mark A. Robot mood is contagious: Effects of robot body language in the imitation game. In *International Conference on Autonomous Agents and Multi-Agent Systems*, pages 973–980. International

- Foundation for Autonomous Agents and Multiagent Systems, Richland, SC, 2014. ISBN 978-1-4503-2738-1. URL <https://dl.acm.org/citation.cfm?id=2617401>.
- Yamaji, Yuto, Miyake, Taisuke, Yoshiike, Yuta, De Silva, P. Ravindra S., and Okada, Michio. STB: Human-dependent sociable trash box. In *5th ACM/IEEE International Conference on Human-Robot Interaction*, pages 197–198. Institute of Electrical and Electronics Engineers, Piscataway, NJ, 2010. ISBN 978-1-4244-4892-0. doi: 10.1109/HRI.2010.5453196. URL <https://doi.org/10.1109/HRI.2010.5453196>.
- Yamaoka, Fumitaka, Kanda, Takayuki, Ishiguro, Hiroshi, and Hagita, Norihiro. “Lifelike” behavior of communication robots based on developmental psychology findings. In *5th IEEE-RAS International Conference on Humanoid Robots*, pages 406–411. Institute of Electrical and Electronics Engineers, Piscataway, NJ, 2005. ISBN 0-7803-9320-1. doi: 10.1109/ICHR.2005.1573601. URL <https://doi.org/10.1109/ICHR.2005.1573601>.
- Yamaoka, Fumitaka, Kanda, Takayuki, Ishiguro, Hiroshi, and Hagita, Norihiro. A model of proximity control for information-presenting robots. *IEEE Transactions on Robotics*, 26(1):187–195, 2010. doi: 10.1109/TRO.2009.2035747. URL <https://doi.org/10.1109/TRO.2009.2035747>.
- Yamashita, Yuki, Ishihara, Hisashi, Ikeda, Takashi, and Asada, Minoru. Path analysis for the halo effect of touch sensations of robots on their personality impressions. In *International Conference on Social Robotics*, pages 502–512. Springer, Cham, Switzerland, 2016. doi: 10.1007/978-3-319-47437-3\_49. URL [https://doi.org/10.1007/978-3-319-47437-3\\_49](https://doi.org/10.1007/978-3-319-47437-3_49).
- Yeh, Alexander, Ratsamee, Photchara, Kiyokawa, Kiyoshi, Uranishi, Yuki, Mashita, Tomohiro, Takemura, Haruo, Fjeld, Morten, and Obaid, Mohammad. Exploring proxemics for human-drone interaction. In *Proceedings of the 5th International Conference on Human-Agent Interaction*, pages 81–88. Association for Computing Machinery, New York, 2017. doi: 10.1145/3125739.3125773. URL <https://doi.org/10.1145/3125739.3125773>.
- Yogeswaran, Nivasan, Dang, Wenting, Navaraj, William Taube, Shakthivel, Dhayalan, Khan, Saleem, Polat, Emre Ozan, Gupta, Shoubhik, Heidari, Hadi, Kaboli, Mohsen, Lorenzelli, Leandro, et al. New materials and advances in making electronic skin for interactive robots. *Advanced Robotics*, 29(21):1359–1373, 2015. doi: 10.1080/01691864.2015.1095653. URL <https://doi.org/10.1080/01691864.2015.1095653>.
- Yohanhan, Steve, and MacLean, Karon E. The role of affective touch in human-robot interaction: Human intent and expectations in touching the haptic creature. *International Journal of Social Robotics*, 4(2):163–180, 2012. doi: 10.1007/s12369-011-0126-7. URL <https://doi.org/10.1007/s12369-011-0126-7>.
- Yoon, Youngwoo, Wolfert, Pieter, Kucherenko, Taras, Viegas, Carla, Nikolov, Teodor, Tsakov, Mihail, and Henter, Gustav Eje. The GENEVA challenge 2022: A large evaluation of data-driven co-speech gesture generation. In Tumuluri, Raj, Sebe, Nicu, Pingali, Gopal, Jayagopi, Dinesh Babu, Dhall, Abhinav, Singh, Richa, Anthony, Lisa, and Salah, Albert Ali, editors, *Proceedings of the 2022 International Conference on Multimodal Interaction*, pages 736–747. Association for Computing Machinery, New York, 2022. doi: 10.1145/3536221.3558058. URL <https://doi.org/10.1145/3536221.3558058>.
- Young, James E., Sung, JaYoung, Voida, Amy, Sharlin, Ehud, Igarashi, Takeo, Christensen, Henrik I., and Grinter, Rebecca E. Evaluating human-robot interaction. *International Journal of Social Robotics*, 3(1):53–67, 2011. doi: 10.1007/s12369-010-0081-8. URL <https://doi.org/10.1007/s12369-010-0081-8>.
- Yu, Chen, and Smith, Linda B. Joint attention without gaze following: Human infants and their parents coordinate visual attention to objects through eye-hand coordination. *PloS One*, 8(11):e79659, 2013. doi: 10.1371/journal.pone.0079659. URL <https://doi.org/10.1371/journal.pone.0079659>.
- Zaga, Cristina. The design of robothings: Non-anthropomorphic and non-verbal robots to promote children’s collaboration through play. PhD thesis, University of Twente, 2021. URL <https://doi.org/10.1109/RO-MAN46459.2019.8956427>.

- Zajonc, Robert B. Attitudinal effects of mere exposure. *Journal of Personality and Social Psychology*, 9(2p2):1–27, 1968. doi: 10.1037/h0025848. URL <https://doi.org/10.1037/h0025848>.
- Zaveri, Mihir. NYPD robot dog's run is cut short after fierce backlash. *New York Times*, 2021. URL [www.nytimes.com/2021/04/28/nyregion/nypd-robot-dog-backlash.html](http://www.nytimes.com/2021/04/28/nyregion/nypd-robot-dog-backlash.html).
- Zen, Heiga, Tokuda, Keiichi, and Black, Alan W. Statistical parametric speech synthesis. *Speech Communication*, 51(11):1039–1064, 2009. doi: 10.1016/j.specom.2009.04.004. URL <https://doi.org/10.1016/j.specom.2009.04.004>.
- Zeng, Zhihong, Pantic, Maja, Roisman, Glenn I., and Huang, Thomas S. A survey of affect recognition methods: Audio, visual, and spontaneous expressions. *IEEE Transactions on Pattern Analysis and Machine Intelligence*, 31(1):39–58, 2009. doi: 10.1109/TPAMI.2008.52. URL <https://doi.org/10.1109/TPAMI.2008.52>.
- Zhang, Yu, Park, Daniel S., Han, Wei, Qin, James, Gulati, Anmol, Shor, Joel, Jansen, Aren, Xu, Yuanzhong, Huang, Yanping, Wang, Shibo, et al. Bigssl: Exploring the frontier of large-scale semi-supervised learning for automatic speech recognition. *IEEE Journal of Selected Topics in Signal Processing*, 16(6):1519–1532, 2022. doi: 10.1109/JSTSP.2022.3182537. URL <https://doi.org/10.1109/JSTSP.2022.3182537>.
- Zhou, Chen, Miao, Ming-Cheng, Chen, Xin-Ran, Hu, Yi-Fei, Chang, Qi, Yan, Ming-Yuan, and Kuai, Shu-Guang. Human-behaviour-based social locomotion model improves the humanization of social robots. *Nature Machine Intelligence*, 4:1040–1052, 2022. doi: 10.1038/s42256-022-00542-z. URL <https://doi.org/10.1038/s42256-022-00542-z>.
- Złotowski, Jakub, Yogeeswaran, Kumar, and Bartneck, Christoph. Can we control it? Autonomous robots are perceived as threatening. *International Journal of Human-Computer Studies*, 100:48–54, 2017. doi: 10.1016/j.ijhcs.2016.12.008. URL <https://doi.org/10.1016/j.ijhcs.2016.12.008>.
- Złotowski, Jakub, Sumioka, Hidenobu, Eyssel, Friederike, Nishio, Shuichi, Bartneck, Christoph, and Ishiguro, Hiroshi. Model of dual anthropomorphism: The relationship between the media equation effect and implicit anthropomorphism. *International Journal of Social Robotics*, 10(5):701–714, 2018. doi: 10.1007/s12369-018-0476-5. URL <https://doi.org/10.1007/s12369-018-0476-5>.

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# Index

- abuse, 225, 240  
action units, 154  
Actroid, 66  
actuators, 32  
    electric, 32  
    pneumatic, 34  
addiction, 223  
affect, 149  
affordances, 60  
*A.I.*, 231  
AI. *See* artificial intelligence  
Aibo, 17, 24, 204, 238  
Alexa, 17  
Alexander, Christopher, 61  
AlphaGo, 232  
Amazon Mechanical Turk, 174  
androids, 24, 63, 65  
animation, 66, 108  
animism, 139  
anthropomorphism, 136  
anthropomorphization, 64–66  
    behavior, 68  
    design, 68  
anxiety, 250  
application architecture, 37  
applications, 198  
    care robots, 238  
    cleaning robots, 211  
    collaborative robots, 214  
    customer service, 200  
    delivery robots, 212  
    education, 202  
    entertainment, 204  
    exhibitions, 205  
    learning, 202  
    performing arts, 205  
    personal assistants, 210  
    pets, 204  
    receptionist robots, 202  
    retail robots, 202  
    security robots, 213  
    service robots, 211  
    sex robots, 206  
    tele-operation, 218  
    tour guide robots, 201  
toys, 204  
artificial intelligence, 17, 24, 42  
    AlphaGo, 232  
    Deep Blue, 232  
    Watson, 232  
Asimo, 24, 66  
Asimov, Isaac, 6, 236  
Astro, 17  
Astro Boy, 233  
attention theft, 224  
autism. *See* autism spectrum disorder  
autism spectrum disorder, 152, 208  
autonomous cars. *See* self-driving cars  
autopilot, 215  
avatar robots, 221  
back-channeling, 128  
*Battlestar Galactica*, 231, 235  
Baxter, 15, 214  
BellaBot, 213  
*Bicentennial Man*, 231  
*Blade Runner*, 231  
BlessU2, 76  
Buddy, 211  
bullying. *See* abuse  
Čapek, Karel, 230  
camera, 27  
care robots, 238  
Care-O-bot, 201  
CASA (computers as social actors), 163  
characters  
    Andrew Martin, 231  
    Astro Boy, 233  
    David (*A.I.*), 231  
    David (*Prometheus*), 234  
    Eto Demerzel, 233  
    Johnny Five, 234  
    Mr. Data, 231  
    R. Daneel Olivaw, 233  
    Rachael, 231  
chatbots, 124  
ChatGPT. *See* large language models  
Chinese room, 51, 126  
Cimon, 250

- circumplex model. *See Russell's circumplex model*  
cleaning robots, 211  
cloud computing, 210  
CNNs (convolutional neural networks), 45  
cognitive mechanisms, 109  
Cohen, Jacob, 188  
collaborative robots, 214  
computers as social actors (CASA), 163  
confidence interval, 189  
contingent behavior, 69  
conversational analysis, 173  
conversational fillers, 114  
convolutional neural networks (CNNs), 45  
correlation, 189  
COVID-19, 84, 201  
Cozmo, 16, 155  
crowdsourcing, 173  
culture, 69, 76, 172  
customer service, 200
- Dall-e, 46  
David (*A.I.*), 231  
David (*Prometheus*), 234  
Deep Blue, 232  
deep learning, 45, 116  
Deep Q-learning, 48  
deictics, 109  
deliberative approach, 37  
delivery robots, 212  
Demerzel, Eto, 233  
depth sensors, 28  
design, 57  
design patterns, 61  
dialogue, 122  
dialogue management, 122  
Dick, Philip K., 63, 231  
dynamic window approach (DWA), 87
- Eddie, 154  
education, 202  
effect size, 188  
Ekman, Paul, 150  
ElliQ, 208  
Elvis, 209  
emotion models, 155  
emotional attachment, 239  
emotions, 148, 149  
    basic, 157  
    expressing, 154  
    in robots, 152  
    perception, 153  
    problems with, 151  
employment, 242  
eMuu, 154, 155  
engagement, 107  
engineering design process, 70  
entertainment, 204  
Epley, Nicholas, 136
- ethics, 240  
    ethics of experimentation, 191  
    informed consent, 191  
    robots in film, 229  
ethnographic studies, 172  
*Ex Machina*, 233  
exhibitions, 205  
experiments, 162, 165–167  
eye movement. *See gaze*
- Facial Action Coding System, 154  
feature extraction, 44  
Field, Andy, 187  
films and TV shows  
    *A.I.*, 231  
    *Battlestar Galactica*, 231, 235  
    *Bicentennial Man*, 231  
    *Blade Runner*, 231  
    *Ex Machina*, 233  
    *Futurama*, 235  
    *Her*, 235  
    *Interstellar*, 231  
    *Prometheus*, 234  
    *Robot and Frank*, 235  
    *Short Circuit*, 234  
    *Star Trek*, 231  
    *The Matrix*, 232  
    *The Terminator*, 232  
    *Westworld*, 235  
    *iRobot*, 232
- fine-tuning, 47  
Fisher, Sir Ronald Aylmer, 185  
Flobi, 155  
Furby, 24  
Furhat, 24  
*Futurama*, 235
- Galactica, 46  
gaze, 98  
Geminoid, 65, 142  
gender, 167  
gesture, 99  
Giertz, Simone, 200  
Goldacre, Ben, 234
- Haptic Creature, 104  
haptics, 103  
hardware, 23  
Harmony X, 207  
Haru, 66  
Hawking, Stephen William, 254  
*Her*, 235  
human–computer interaction, 7  
human–robot team, 219  
humanoid, 24, 65
- iCat, 154, 155  
iCub, 24, 31, 100  
impression formation, 135

- intent recognition, 120  
*Interstellar*, 231  
*iRobot*, 232
- Jibo, 211  
jobs, 242  
Joggobot, 82  
Johnny Five, 234
- K5, 213  
Kahn, Peter, 61  
Kaspar, 152, 209  
Keepon, 14, 66  
Kinect sensor, 29  
Kismet, 13, 154  
Kiwi, 209  
KUKA, 34  
Kuri, 199
- language, 112  
    artificial, 118  
    understanding, 119  
language models, 45  
large language models, 120, 124, 128  
laser range finders, 29  
LEGO Mindstorms, 75, 202  
localization, 86
- machine learning, 42  
Martin, Andrew, 231  
*Matrix, The*, 232  
McDermott, Drew, 51  
media, 252  
microphone array, 30  
microphones, 30, 115  
military robots, 219  
mimicry, 101  
Mirokai, 11  
mood, 149  
Mori, Masahiro, 66  
morphology, 59  
motion planning, 89  
motors. *See* actuators  
Mr. Data, 231  
Musk, Elon, 254  
Muu, 60
- Nabaztag, 211  
Nao, 14, 24, 209  
Nass, Clifford, 163  
navigation, 87  
neural networks, 45  
nonverbal interaction, 95  
null hypothesis significance testing,  
    187, 188
- observational methods, 170  
OCC model, 155  
odometry, 86
- Olivaw, R. Daneel, 233  
OriHime, 221
- p-value, 186  
PackBot, 218  
PAD model, 156  
PaPeRo, 208  
Papert, Seymour, 75  
pareidolia, 64  
Paro, 15, 24, 181, 208, 238  
participants, 176  
participatory design, 73  
people tracking, 86  
Pepper, 14, 24, 128, 202  
performing arts, 205  
personal assistants, 210  
personal robotic assistants, 210  
pets, 204  
phonemes, 114  
physiotherapy, 209  
Pirsig, Robert M., 78  
Pleo, 24, 204, 209  
police robots, 213  
posture, 104  
PR2, 30  
pressure sensors. *See* tactile sensors  
projection robots, 24  
Prolific, 174  
*Prometheus*, 234  
prosthetics, 210  
prototyping, 74  
proxemics, 83, 88
- Q-learning, 48  
Qrio, 199  
Queen of Shitty Robots, 200
- Rachael, 231  
reactive behavior, 69  
RealDoll, 206  
receptionist robots, 202  
recurrent neural networks (RNNs), 45  
reinforcement learning, 48  
relationships, 252  
research methods  
    between-subjects design, 177  
    causation, 165, 166  
    confidence interval, 189  
    confirmatory research, 163, 164  
    correlation, 165, 166, 189  
    counterbalance, 178  
    debriefing, 191  
    dependent variable, 167, 168  
    descriptive statistics, 186  
    direct measures, 184  
    ethics of experimentation, 191  
    experimental condition, 167  
    experiments, 162, 165–167  
    exploratory research, 163, 167

- field studies, 178, 179  
hypothesis, 164  
independent variable, 167, 168  
indirect measures, 185  
informed consent, 191  
interaction dyad, 180  
lab studies, 178  
manipulation check, 168  
measuring, 184  
null hypothesis significance testing, 187, 188  
*p*-hacking, 189  
*p*-value, 186, 187  
participants, 176  
power, statistical, 178, 190  
preregistration, 164  
qualitative research, 166, 191  
quantitative research, 166  
research question, 163  
sample size, 177  
self-report, 184  
significance, 187  
spurious correlation, 165, 189  
standards, 189  
statistics, 185  
survey, 168  
Type I error, 187  
Type II error, 190  
within-subjects design, 177  
Wizard of Oz, 191  
retail robots, 202  
RGBD sensors, 28  
rhythm, 106, 128  
RNNs (recurrent neural networks), 45  
robjcts, 60  
Robosapiens, 204  
robot abuse, 225  
*Robot and Frank*, 235  
Robot Operating System (ROS), 36  
robot taxis, 215  
robots  
    Actroid, 66  
    Aibo, 17, 24, 204, 238  
    androids, 24, 63  
    Asimo, 8, 24, 66  
    Astro, 17  
    Baxter, 15, 16, 69, 214  
    BellaBot, 213  
    BlessU2, 76  
    Blossom, 18  
    Buddy, 211  
    Care-O-bot, 201  
    Cimon, 250  
    Cozmo, 16, 155  
    Eddie, 154  
    ElliQ, 208  
    Elvis, 209  
    eMuu, 154, 155  
    Flobi, 155  
    Furby, 24  
    Furhat, 24  
    Geminoid HI 4, 65  
    Haptic Creature, 104  
    Harmony X, 207  
    Haru, 66  
    humanoid, 24  
    iCat, 154, 155  
    iCub, 24, 31, 100  
    InMoov, 18  
    Jibo, 211  
    Joggobot, 82  
    K5, 213  
    Kaspar, 152, 209  
    Keepon, 14, 66  
    Kismet, 13, 154  
    Kiwi, 209  
    KUKA, 34  
    Kuri, 199  
    LEGO Mindstorms, 75, 202  
    Mirokai, 11  
    Muu, 60  
    Nabaztag, 211  
    Nao, 14, 24, 65, 209  
    OriHime, 221  
    PackBot, 218  
    PaPeRo, 208  
    Paro, 15, 24, 208, 238  
    Pepper, 14, 24, 66, 128, 202  
    Philip K. Dick, 63  
    Pleo, 24, 204, 209  
    PR2, 30  
    projection, 24  
    Qrio, 199  
    RealDoll, 206  
    Robosapiens, 204  
    Robovie, 24, 65, 170  
    Robovie MR2, 76  
    Roomba, 16, 38, 211, 212  
    Sawyer, 16  
    Snackbot, 73  
    Sphero, 204  
    Telenoid, 104  
    telepresence, 25  
    Terminator, the, 232  
    Thrifty, 105  
    Tiago, 36  
    Toyota T-HR3, 220  
    Trossen, 33  
    TurtleBot, 57  
    types, 23  
    Vector, 16  
    Vex Robotics, 75  
    virtual agent, 24  
    Wakamaru, 24, 66  
    Walt, 214  
    Zeno, 209  
    zoomorphic, 24  
    Robovie, 24, 170

- Robovie MR2, 76  
Roomba, 16, 38, 211, 212  
ROS (Robot Operating System), 36  
Russell's circumplex model, 150, 156
- sample size, 177  
Searle, John, 51  
security robots, 213  
self-driving cars, 214  
sentiment analysis, 119  
service robots, 211  
sex robots, 206  
*Short Circuit*, 234  
simulation, 183  
simultaneous localization and mapping (SLAM), 86  
smart-home assistants, 210  
smile detection, 153  
Snackbot, 73  
social robots, 12, 23  
software, 26  
space, 82  
spatial interaction, 82  
speakers, 34  
speech, 114  
speech production, 129  
speech recognition, 115, 116  
Sphero, 204  
Spielberg, Steven, 231  
*Star Trek*, 231  
statistics, 185  
    Bayesian inference, 190  
    confidence interval, 189  
    correlation, 189  
    descriptive, 186  
    effect size, 188  
    inferential, 186  
    null hypothesis significance testing, 187, 188  

-hacking, 189

*p*-value, 186, 187

power, statistical, 178, 190

significance, 187

standards, 189

Type I error, 187

Type II error, 190  
supervised learning, 42  
system architecture, 25  
system studies, 169

tactile sensors, 30  
teamwork, 76  
tele-operation, 218  
Telenoid, 104  
telepresence, 25, 221  
*Terminator, The*, 232  
text-to-speech, 129  
The Dot and the Line, 68  
Thrifty, 105  
TIAGo, 36  
touch, 103  
tour guide robots, 201  
Toyota T-HR3, 220  
toys, 204  
transfer learning, 47  
transformers, 45, 120  
Trossen, 33  
TTS Engines, 130  
turn-taking, 106, 128  
TurtleBot, 57  
tutoring. *See* education  
TV shows. *See* films and TV shows  
uncanny valley, 66, 145  
user-centered design, 72  
utterance, 114

Vector, 16  
verbal interaction, 112  
Vex Robotics, 75  
virtual agents, 24  
voice-activity detection, 119

Wakamaru, 24, 66  
Watson, 232  
*Westworld*, 235  
Wizard of Oz, 191, 237

Zeno, 209  
zoomorphic, 24