

Bibliography

Note: Numbers in square brackets denote the chapter in which an entry is cited.

- Alissandrakis, A., C. L. Nehaniv, and K. Dautenhahn. 2002. Imitation with ALICE: Learning to Imitate Corresponding Actions across Dissimilar Embodiments. *IEEE Trans. Syst. Man Cybern. A Syst. Hum.* **32**:482–496. [18]
- Billard, A., S. Calinon, R. Dillmann, and S. Schaal. 2008. Robot Programming by Demonstration. In: Springer Handbook of Robotics, ed. B. Siciliano and O. Khatib, pp. 1371–1394. Heidelberg: Springer. [18]
- Billard, A., Y. Epars, S. Calinon, S. Schaal, and G. Cheng. 2004. Discovering Optimal Imitation Strategies. *Rob. Auton. Syst.* **47**:69–77. [18]
- Bohg, J., and D. Kragic. 2009. Grasping Familiar Objects Using Shape Context. ICAR 2009, pp. 1–6. [18]
- Borroni, P., M. Montagna, G. Cerri, F. Baldissera, and D. Kragic. 2005. Cyclic Time Course of Motor Excitability Modulation During the Observation of a Cyclic Hand Movement. *Brain Res.* **1065**:115–124. [18]
- Brock, O. 2011. Is Robotics in Need of a Paradigm Shift? Berlin Summit on Robotics, pp. 1–10. [18]
- Brooks, R. A. 1990. Elephants Don't Play Chess. *Robot. Auton. Syst.* **6**:3–15. [18]
- . 1991. Intelligence without Representation. *Artif. Intell.* **47**:139–159. [01, 07, 18, 20]
- . 2002. *Flesh and Machines: How Robots Will Change Us*. New York: Pantheon Books. [18]
- Calinon, S. 2009. Robot Programming by Demonstration: A Probabilistic Approach. Lausanne: EPFL Press. [18]
- Clark, A. 1998. *Being There. Putting Brain, Body, and World Together Again*. Cambridge, MA: MIT Press. [01, 02, 05, 11, 13, 16, 18]
- Demiris, Y., and M. Johnson. 2003. Distributed, Predictive Perception of Actions: A Biologically Inspired Robotics Architecture for Imitation and Learning. *Connect. Sci.* **15**:231–243. [18]
- Engel, A. K., A. Maye, M. Kurthen, and P. König. 2013. Where's the Action? The Pragmatic Turn in Cognitive Science. *Trends Cogn. Sci.* **17**:202–209. [01, 02, 04, 05, 08, 09, 11, 13, 15, 18, 20]
- Fadiga, L., G. Buccino, L. Craighero, et al. 1999. Corticospinal Excitability Is Specifically Modulated by Motor Imagery: A Magnetic Stimulation Study. *Neuropsychologia* **37**:147–158. [18]
- Fikes, R. E., and N. J. Nilsson. 1971. Strips: A New Approach to the Application of Theorem Proving to Problem Solving. Proc. 2nd Intl. Joint Conf. on Artificial Intelligence, pp. 608–620. San Francisco: Morgan Kaufmann. [18]
- Flash, T., and N. Hogan. 1985. The Coordination of Arm Movements: An Experimentally Confirmed Mathematical Model. *J. Neurosci.* **5**:1688–1703. [18]
- Gallese, V., L. Fadiga, L. Fogassi, and G. Rizzolatti. 1996. Action Recognition in the Premotor Cortex. *Brain* **119**:593–609. [18]
- Gibson, J. J. 1977. The Theory of Affordances. In: *Perceiving, Acting, and Knowing: Toward an Ecological Psychology*, ed. R. Shaw and J. Bransford, pp. 67–82. Hillsdale, NJ: Lawrence Erlbaum. [18]
- Granlund, G. 1999. Does Vision Inevitably Have to Be Active? Proc. Scandinavian Conf. on Image Analysis, vol. 1, pp. 11–19. Kangerlussuaq, Greenland. [18]
- Halevy, A., P. Norvig, and F. Pereira. 2009. The Unreasonable Effectiveness of Data. *IEEE Intell. Syst.* **24**:8–12. [18]
- Harnad, S. 1991. Other Bodies, Other Minds: A Machine Incarnation of an Old Philosophical Problem. *Minds and Machines* **1**:43–54. [18]
- Horn, B. K. 1986. *Robot Vision* (1st edition). New York: McGraw-Hill. [18, 20]
- Ijspeert, A. J., J. Nakanishi, and S. Schaal. 2002. Movement Imitation with Nonlinear Dynamical Systems in Humanoid Robots. Proc. IEEE Intl. Conf. Robotics and Automation, pp. 1398–1403. Washington, D.C.: IEEE. [18]

- Inamura, T., I. Toshima, H. Tanie, and Y. Nakamura. 2004. Embodied Symbol Emergence Based on Mimesis Theory. *Int. J. Rob. Res.* **23**:363–377. [18]
- Jeannerod, M. 1988. The Neural and Behavioural Organization of Goal-Directed Movements, vol. 15. Oxford Psychology Series. Oxford: Clarendon Press. [18]
- Koch, C., and S. Ullman. 1985. Shifts in Selective Visual Attention: Towards the Underlying Neural Circuitry. *Hum. Neurobiol.* **4**:219–227. [18]
- Kraft, D., N. Pugeault, E. Başeski, et al. 2008. Birth of the Object: Detection of Objectness and Extraction of Object Shape through Object-Action Complexes. *Int. J. Hum. Robotics* **5**:247–265. [18]
- Kuniyoshi, Q., Y. Yorozu, M. Inaba, and H. Inoue. 2003. From-Visuo Motor Self Learning to Early Imitation. In: Proc. IEEE Intl. Conf. on Robotics and Automation, pp. 3132–3139. Taipei: IEEE [18]
- Kuypers, H. 1973. The Anatomical Organization of the Descending Pathways and Their Contribution to Motor Control Especially in Primates. In: New Developments in Electromyography and Clinical Neurophysiology, ed. J. E. Desmedt, vol. 3, pp. 38–68. New York: S. Karger. [18]
- Lungarella, M., G. Metta, R. Pfeifer, and G. Sandini. 2003. Developmental Robotics: A Survey. *Connect. Sci.* **15**:151–190. [02, 18]
- Marcus, G. 2014. What Comes after the Turing Test? *The New Yorker*, October 12, 2015. [18]
- Montesano, L., M. Lopes, A. Bernardino, and J. Santos-Victor. 2008. Learning Object Affordances: From Sensory-Motor Coordination to Imitation. *IEEE Trans. Robot.* **24**:15–26. [18]
- Moravec, H. 1988. Mind Children: The Future of Robot and Human Intelligence. Cambridge, MA: Harvard Univ. Press. [18]
- Moren, J., A. Ude, A. Koene, and G. Cheng. 2008. Biologically-Based Top-Down Attention Modulation for Humanoid Interactions. *Int. J. Hum. Robotics* **5**:3–24. [18]
- O'Regan, J. K., and A. Noë. 2001. A Sensorimotor Account of Vision and Visual Consciousness. *Behav. Brain Sci.* **24**:939–973; discussion 973–1031. [01, 02, 04, 05, 06, 08, 09, 11, 13, 14, 15, 16, 18, 19, 20]
- Oztop, E., D. Wolpert, and M. Kawato. 2005. Mental State Inference Using Visual Control Parameters. *Cogn. Brain Res.* **22**:129–151. [18]
- Pastor, P., H. Hoffmann, T. Asfour, and S. Schaal. 2009. Learning and Generalization of Motor Skills by Learning from Demonstration. IEEE Intl. Conf. on Robotics and Automation (ICRA), pp. 763–768. Kobe: IEEE. [18]
- Pastor, P., L. Righetti, M. Kalakrishnan, and S. Schaal. 2011. Online Movement Adaptation Based on Previous Sensor Experiences. Proc. IEEE/RSJ Intl. Conf. on Intelligent Robots and Systems (IROS), pp. 365–371. San Francisco: IEEE. [18]
- Pearl, J. 2009. Causal Inference in Statistics: An Overview. *Stat. Surv.* **3**:96–146. [18]
- Pfeifer, R., and C. Scheier. 1999. Understanding Intelligence. Cambridge, MA: MIT Press. [02, 14, 18, 20]
- Rao, R., A. Shon, and A. Meltzoff. 2007. A Bayesian Model of Imitation in Infants and Robots. In: Imitation and Social Learning in Robots, Humans, and Animals, ed. C. L. Nehaniv and K. Dautenhahn, pp. 217–247. New York: Cambridge Univ. Press. [18]
- Rasolzadeh, B., M. Björkman, K. Huebner, and D. Kragic. 2010. An Active Vision System for Detecting, Fixating and Manipulating Objects in the Real World. *Int. J. Rob. Res.* **29**:133–154. [18]
- Rivlin, E., S. J. Dickinson, and A. Rosenfeld. 1995. Recognition by Functional Parts. *Comput. Vis. Image Underst.* **62**:164–176. [18]
- Russell, S. J., and P. Norvig. 2003. Artificial Intelligence: A Modern Approach. Upper Saddle River, NJ: Prentice-Hall. [18]
- Saxena, A., J. Driemeyer, and A. Y. Ng. 2008. Robotic Grasping of Novel Objects Using Vision. *Int. J. Rob. Res.* **27**:157–173. [18]
- Schaal, S. 1999. Is Imitation Learning the Route to Humanoid Robots? *Trends Cogn. Sci.* **3**:233–242. [18]
- Schaal, S., P. Mohajerian, and A. Ijspeert. 2007. Dynamics Systems vs. Optimal Control: A Unifying View. *Prog. Brain Res.* **165**:425–445. [18]

- Sloman, A. 2001. Evolvable Biologically Plausible Visual Architectures. In: Proc. British Machine Vision Conf., pp. 313–322. Manchester: BMVC. [18]
- Song, D., K. Huebner, V. Kyrki, and D. Kragic. 2010. Learning Task Constraints for Robot Grasping Using Graphical Models. In: IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS), pp. 1579–1585. Taipei: IEEE. [18]
- Stark, L., and K. Bowyer. 1996. Generic Object Recognition Using Form and Function. New York: World Scientific. [18]
- Stark, M., P. Lies, M. Zillich, J. Wyatt, and B. Schiele. 2008. Functional Object Class Detection Based on Learned Affordance Cues. In: Computer Vision Systems, pp. 435–444. Heidelberg: Springer. [18]
- Turing, A. M. 1950. Computing Machinery and Intelligence. In: The New Media Reader, ed. N. Wardrip-Fruin and N. Montfort, pp. 50–64. Cambridge, MA: MIT Press. [18]
- Varela, F. J., E. Thompson, and E. Rosch. 1992. The Embodied Mind: Cognitive Science and Human Experience. Cambridge, MA: MIT Press. [01, 09, 11, 15, 16, 18, 19, 20]
- Wolpert, D., and M. Kawato. 1998. Multiple Paired Forward and Inverse Models for Motor Control. *Neural Netw.* **11**:1317–1329. [18]
- Wolpert, D. M., J. A. Diedrichsen, and J. R. Flanagan. 2011. Principles of Sensorimotor Learning. *Nat. Rev. Neurosci.* **12**:739–751. [01, 18]
- Ziemke, T. 2003. What’s That Thing Called Embodiment? In: Proc. 25th Annual Conference of the Cognitive Science Society, ed. R. Alterman and D. Kirsh, pp. 1134–1139. Mahwah, NJ: Lawrence Erlbaum. [18]