

ICS: Course Readings

Autumn Semester 2007

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The readings marked * are essential and, together with the course notes, constitute the examinable content. A longer list of references that can be used in following up specialized topics is appended to the course notes

1 Readings

1. Mapping the World onto the Brain (Stereo Vision).
Marr 1977; *Marr & Poggio 1976
2. Representing the World Symbolically (Scene Analysis).
Huffman 1971
3. Representing Action in the World Computationally (Planning)
McCarthy & Hayes 1969; *Shanahan 1997
4. How Animals and Humans Actually make Plans
Shanahan 2001; Drescher 1991:Ch 2, Synopsis of Piagetian Development.
5. Neurological and Developmental Substrate of Planning and Language
Miller et al. 1960, Ch.14, Some Neurophysiological Speculations; *Rizzolatti et al. 2002;
Minsky & Papert 1988a
6. How Universal Grammar is Transparent to Prelinguistic Planning.
Miller et al. 1960, Ch.11, Planning to Speak
7. How Semantics is Transparent to Prelinguistic Planning
Bach 1986
8. How Discourse is Transparent to Prelinguistic Planning
Power 1979:107-130;
9. Human and Computational Natural Language Processing
Pereira 2000; *Altmann 1998
10. Human and Computational Language Development
Gopnik & Schulz 2004; *Zettlemoyer & Collins 2005
11. Envoi: Scope and Limits of Cognitive Science
Turing 1950; Searle 1990

References

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- Drescher, G. (1991). *Made-up Minds*. Cambridge, MA.: MIT Press.
- Gopnik, A. & Schulz, L. (2004). Mechanisms of theory formation in young children. *Trends in Cognitive Science*, 8, 371–377.
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- Marr, D. (1977). Artificial intelligence: A personal view. *Artificial Intelligence*, 9, 37–48.
- Marr, D. & Poggio, T. (1976). Cooperative computation of stereo disparity. *Science*, 194, 283–287. Reprinted in Vaina 1991.
- McCarthy, J. & Hayes, P. (1969). Some philosophical problems from the standpoint of artificial intelligence. In B. Meltzer & D. Michie (eds.), *Machine Intelligence*, vol. 4, pp. 473–502. Edinburgh: Edinburgh University Press.
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- Rizzolatti, G., Fogassi, L., & Gallese, V. (2002). Motor and cognitive functions of the ventral premotor cortex. *Current Opinions in Neurobiology*, 12, 149–154.
- Searle, J. (1990). Is the brain's mind a computer? *Scientific American*, 262, 26–32.
- Shanahan, M. (1997). Event calculus planning revisited. In *Proceedings of the Workshop on Robots, Softbots, Immobots: Theories of Action, Planning, and Control*, pp. 96–104. held in conjunction with the 14th National Conference on Artificial Intelligence, Providence, RI, July 1997.

- Shanahan, M. (2001). Using reactive rules to guide a forward-chaining planner. In *Proceedings of the European Conference on Planning (ECP-01)*.
- Turing, A. (1950). Computing machinery and intelligence. *Mind*, 59, 433–460.
- Vaina, L. (ed.) (1991). *From Retina to Neocortex: Selected Papers of David Marr*. Boston, MA: Birkhauser.
- Zettlemoyer, L. & Collins, M. (2005). Learning to map sentences to logical form: Structured classification with probabilistic categorial grammars. In *Proceedings of the 21st Conference on Uncertainty in AI (UAI)*, pp. 658–666. ACL.