

Multiagent Systems

Reading List

May 17-21 2010

Topic and Papers Relevant lectures

1 Multiagent Systems Surveys:

P. Stone and M. Veloso, "Multiagent Systems: A survey from a machine learning perspective." <i>Autonomous Robots</i> , vol. 8(3), pp. 345–383, 2000.	1,2
L. Panait and S. Luke. Cooperative Multi-agent Learning: The state of the art." <i>Journal of Autonomous Agents and MultiAgent Systems</i> , vol.11, pp. 387-434, 2005.	
P. Stone and M. Veloso, "Multiagent Systems: A survey from a machine learning perspective." <i>Autonomous Robots</i> , vol. 8(3), pp. 345–383, 2000.	2

2 Multiagent Learning:

K. Tumer and N. Khani, "Learning from Actions Not Taken in Multiagent Systems." <i>Advances in Complex Systems</i> , Vol 12:455--473, 2009.	3
F. Melo and M. Veloso. "Learning of coordination: Exploiting sparse interactions in multiagent systems." In <i>The Eight International Joint Conference on Autonomous Agents and Multiagent Systems</i> , pp.773-780, Budapest, Hungary, 2009.	(2)
S. Abdallah and V. Lesser. "A multiagent reinforcement learning algorithm with non-linear dynamics." <i>Journal of Artificial Intelligence Research</i> , vol. 33, pp 89-132, 2009.	(2)

3 Agent Rewards/Objectives for Coordination:

A. Agogino and K. Tumer. "Analyzing and Visualizing Multiagent Rewards in Dynamic and Stochastic Environments." <i>Journal of Autonomous Agents and MultiAgent Systems</i> , vol. 17 (2), pp. 320-338, 2008.	2
S. A. Williamson, E. H. Gerding, N. R. Jennings. "Reward shaping for valuing communication during multi-agent coordination." In <i>The Eight International Joint Conference on Autonomous Agents and Multiagent Systems</i> , pp. 641-648, Budapest, Hungary, 2009.	1,2,3
T. Hester and P. Stone. "Generalized model learning for reinforcement learning in factored domains." In <i>The Eight International Joint Conference on Autonomous Agents and Multiagent Systems</i> , pp. 717-724, Budapest, Hungary, 2009.	(1)

4 Swarms and Optimization:

J. Svennebring and S. Koenig. "Trail-Laying Robots for Robust Terrain Coverage." In *Proceedings of the International Conference on Robotics and Automation (ICRA)*, 2003. (4)

M. Dorigo and C. Blum. "Ant colony optimization theory: A survey." In *Theoretical Computer Science*, vol 344, pp. 243-278, 2005.

5 Auctions, Norms, Voting

S. Sen and S. Airiau. "Emergence of norms through social learning." In <i>The Proceedings of the Twentieth International Joint Conference on Artificial Intelligence</i> , Hyderabad, India, 2007.	
A. Likhodedov and T. Sandholm, T. "Approximating Revenue-Maximizing Combinatorial Auctions." In <i>The Proceedings of the Twentieth National Conference on Artificial Intelligence (AAAI)</i> , Pittsburgh, PA, 2005.	
V. Conitzer, V., T. Sandholm and J. Lang. "When Are Elections with Few Candidates Hard to Manipulate?" <i>Journal of the ACM</i> , vol. 54(3), June 2007.	

6 Robot Coordination:

T. Hogg. "Coordinating microscopic robots in viscous fluids." <i>Journal of Autonomous Agents and Multi-Agent Systems</i> , vol. 14 (3) pp. 271-305, 2007.	(4)
G. P. Settembre, P. Scerri, A. Farinelli, K. Sycara, D. Nardi. "A decentralized approach to cooperative situation assessment in multi-robot systems." In <i>The Seventh International Joint Conference on Autonomous Agents and Multiagent Systems</i> , Estoril, Portugal, pp. 31-38, 2008.	(4)
A. K. Agogino and K. Tumer. "Efficient Evaluation Functions for Evolving Coordination." <i>Evolutionary Computation</i> , vol 16(2), pp.257-288, 2008.	4

7 Traffic applications:

K. Dresner and P. Stone. "A multiagent approach to autonomous intersection management." <i>Journal of Artificial Research</i> , vol. 31, pp. 591-656, 2008.	(4)
A. Bazzan. "A distributed approach for coordination of traffic signal agents." <i>Journal of Autonomous Agents and Multi-Agent Systems</i> vol. 10 (1) pp. 131-164. 2005.	(4)

Reading list

<p>K. Tumer, Z. Welch and A. Agogino. "Aligning social welfare and agent preferences to alleviate traffic congestion." In <i>Proceedings of the Seventh International Joint Conference on Autonomous Agents and Multi-Agent Systems</i>. Estoril, Portugal, 2008.</p>	<p>(4)</p>
<p>K. Tumer and A. K. Agogino. "Distributed Agent-Based Air Traffic Flow Management." In <i>The Sixth International Joint Conference on Autonomous Agents and Multiagent Systems</i>, pp. 330-337, Honolulu, HI, 2007.</p>	<p>4</p>