

REFERENCES

- [1] A. K. Agogino and K. Tumer. 2008. Analyzing and Visualizing Multiagent Rewards in Dynamic and Stochastic Environments. *Journal of Autonomous Agents and Multi-Agent Systems* 17, 2 (2008), 320–338.
- [2] Monica Babes, Enrique Munoz de Cote, and Michael L. Littman. 2008. Social reward shaping in the prisoner’s dilemma. In *7th International Joint Conference on Autonomous Agents and Multiagent Systems (AAMAS 2008)*, Estoril, Portugal, May 12-16, 2008, Volume 3. 1389–1392.
- [3] Daniel S. Bernstein, Shlomo Zilberstein, and Neil Immerman. 2000. The Complexity of Decentralized Control of Markov Decision Processes. In *UAI ’00: Proceedings of the 16th Conference in Uncertainty in Artificial Intelligence*, Stanford University, Stanford, California, USA, June 30 - July 3, 2000. 32–37.
- [4] Lucian Busoniu, Robert Babuska, and Bart De Schutter. 2008. A Comprehensive Survey of Multiagent Reinforcement Learning. *IEEE Transactions of Systems, Man, and Cybernetics Part C: Applications and Reviews* 38, 2 (2008).
- [5] Caroline Claus and Craig Boutilier. 1998. The Dynamics of Reinforcement Learning in Cooperative Multiagent Systems. In *Proceedings of the Fifteenth National Conference on Artificial Intelligence and Tenth Innovative Applications of Artificial Intelligence Conference, AAAI 98, IAAI 98, July 26-30, 1998, Madison, Wisconsin, USA*. 746–752.
- [6] M. Colby, T. Duchow-Pressley, J. J. Chung, and K. Tumer. 2016. Local Approximation of Difference Evaluation Functions. In *Proceedings of the Fifteenth International Joint Conference on Autonomous Agents and Multiagent Systems*. Singapore.
- [7] S. Devlin, L. Yliniemi, D. Kudenko, and K. Tumer. 2014. Potential-Based Difference Rewards for Multiagent Reinforcement Learning. In *Proceedings of the Thirteenth International Joint Conference on Autonomous Agents and Multiagent Systems*.
- [8] Jakob N. Foerster, Yannis M. Assael, Nando de Freitas, and Shimon Whiteson. 2016. Learning to Communicate with Deep Multi-Agent Reinforcement Learning. In *Advances in Neural Information Processing Systems 29: Annual Conference on Neural Information Processing Systems 2016, December 5-10, 2016, Barcelona, Spain*. 2137–2145.
- [9] Jakob N. Foerster, Gregory Farquhar, Triantafyllos Afouras, Nantas Nardelli, and Shimon Whiteson. 2017. Counterfactual Multi-Agent Policy Gradients. *CoRR abs/1705.08926* (2017). arXiv:1705.08926 <http://arxiv.org/abs/1705.08926>
- [10] Carlos Guestrin, Michail G. Lagoudakis, and Ronald Parr. 2002. Coordinated Reinforcement Learning. In *Proceedings of the Nineteenth International Conference on Machine Learning (ICML ’02)*. Morgan Kaufmann Publishers Inc., San Francisco, CA, USA, 227–234. <http://dl.acm.org/citation.cfm?id=645531.757784>
- [11] Matthew John Hausknecht. 2016. *Cooperation and Communication in Multiagent Deep Reinforcement Learning*. Ph.D. Dissertation. The University of Texas at Austin.
- [12] C. HolmesParker, A. Agogino, and K. Tumer. 2016. Combining Reward Shaping and Hierarchies for Scaling to Large Multiagent Systems. *Knowledge Engineering Review* (2016). to appear.
- [13] Lior Kuyper, Shimon Whiteson, Bram Bakker, and Nikos A. Vlassis. 2008. Multiagent Reinforcement Learning for Urban Traffic Control Using Coordination Graphs. In *Machine Learning and Knowledge Discovery in Databases, European Conference, ECML/PKDD 2008, Antwerp, Belgium, September 15-19, 2008, Proceedings, Part I*. 656–671.
- [14] Guillaume J. Laurent, Laëtitia Matignon, and N. Le Fort-Piat. 2011. The World of Independent Learners is Not Markovian. *Int. J. Know.-Based Intell. Eng. Syst.* 15, 1 (2011), 55–64.
- [15] Joel Z. Leibo, Vinicius Zambaldi, Marc Lanctot, Janusz Marecki, and Thore Graepel. 2017. Multi-agent Reinforcement Learning in Sequential Social Dilemmas. In *Proceedings of the 16th International Conference on Autonomous Agents and Multiagent Systems (AAMAS 2017)*. Sao Paulo, Brazil.
- [16] Frans A. Oliehoek and Christopher Amato. 2016. *A Concise Introduction to Decentralized POMDPs*. Springer.
- [17] Liviu Panait and Sean Luke. 2005. Cooperative Multi-Agent Learning: The State of the Art. *Autonomous Agents and Multi-Agent Systems* 11, 3 (2005), 387–434.
- [18] S. Proper and K. Tumer. 2012. Modeling Difference Rewards for Multiagent Learning (Extended Abstract). In *Proceedings of the Eleventh International Joint Conference on Autonomous Agents and Multiagent Systems*. Valencia, Spain.
- [19] Tabish Rashid, Mikayel Samvelyan, Christian Schroeder de Witta, Gregory Farquhar, Jakob Foerster, and Shimon Whiteson. 2017. MIX: Monotonic Value Function Factorisation for Deep Multi-Agent Reinforcement Learning. *CoRR* <https://arxiv.org/abs/1803.11485> (2017).
- [20] Stuart J. Russell and Andrew Zimdars. 2003. Q-Decomposition for Reinforcement Learning Agents. In *Machine Learning, Proceedings of the Twentieth International Conference (ICML 2003), August 21-24, 2003, Washington, DC, USA*. 656–663.
- [21] Jeff G. Schneider, Weng-Keen Wong, Andrew W. Moore, and Martin A. Riedmiller. 1999. Distributed Value Functions. In *Proceedings of the Sixteenth International Conference on Machine Learning (ICML 1999), Bled, Slovenia, June 27 - 30, 1999*. 371–378.
- [22] Sainbayar Sukhbaatar, Arthur Szlam, and Rob Fergus. 2016. Learning Multiagent Communication with Backpropagation. *CoRR abs/1605.07736* (2016). <http://arxiv.org/abs/1605.07736>
- [23] Peter Sunehag, Guy Lever, Audrunas Gruslys, Wojciech Marian Czarnecki, Vinicius Flores Zambaldi, Max Jaderberg, Marc Lanctot, Nicolas Sonnerat, Joel Z. Leibo, Karl Tuyls, and Thore Graepel. 2017. Value-Decomposition Networks For Cooperative Multi-Agent Learning. *CoRR abs/1706.05296* (2017).
- [24] K. Tumer and D. Wolpert. 2004. A Survey of Collectives. In *Collectives and the Design of Complex Systems*, K. Tumer and D. Wolpert (Eds.). Springer, 1–42.
- [25] Karl Tuyls and Gerhard Weiss. 2012. Multiagent Learning: Basics, Challenges, and Prospects. *AI Magazine* 33, 3 (2012), 41–52.
- [26] Elise van der Pol and Frans A. Oliehoek. 2016. Coordinated Deep Reinforcement Learners for Traffic Light Control. *NIPS Workshop on Learning, Inference and Control of Multi-Agent Systems* (2016).