
Cooperation in Multi-Agent Learning

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Abstract

Advancements in Multi-Agent Reinforcement Learning (MARL) are motivated by cooperation in agents arising from Game Theory (GT). Agents must collaborate in practical scenarios in order to achieve complex objectives and attain strategies which depict optimal behavior. The need for cooperation is further highlighted in the case of partially-observed settings wherein agents

1 Introduction

2 Related Work

2.1 Learning in Games

2.2 Multi-Agent Learning

3 Preliminaries

3.1 Stochastic Markov Games

3.2 Q-Learning

3.3 Multi-Agent Learning

4 Cooperation in Multi-Agent Learning

4.1 The Partial Observability Setting

4.2 Learning Model-Free Behaviors

5 Tackling Spurious Dynamics

6 Experiments

6.1 The StarCraft II Benchmark

6.2 Performance

6.3 Spurious Dynamics

7 Conclusion

References