Reinforcement Learning for Stochastic Games

Sheiladitya Kumar, Master of Science in Computer Science University of Dublin, Trinity College, 2022

Supervisor: John Waldron

Over the last few years there has been resurgence in the popularity of stochastic games. This can be seen with the growing popularity of some of these games such as poker and chess experiencing large growth. In this dissertation we look to evaluate a stochastic game, blackjack, in depth through the use of reinforcement learning (RL) methods such as value iteration and policy extraction. The project provides a thorough overview, covering the required theory and then implementing it to see how well gameplay within the environment of such a stochastic game can be optimized.