



Construction and Training of a Poker Bot Using Reinforcement Learning

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Project Description and Motivation

Project description

- Our project is to construct and train a poker bot. The goal is for the bot to play as well as possible against human players.
- To start off, we will consider a simplified version of heads up fixed limit Texas Hold'em. If time permits, we will consider more advanced versions of the game.

Motivation

- Poker is a complex game with a large state space, incomplete information and randomness
- Poker is both fun and intellectually challenging
- Training poker bots has been an area of research for decades

Methods and Evaluation

Methods

- We will use reinforcement learning to train the poker bot
- Reinforcement learning is ideal in situations where the agent makes multiple subsequent decisions which each may have an associated cost or reward in an environment characterized by randomness and incomplete information

Evaluation

- Play against humans
- Play against other bots
- Analyse how the bot learns to play certain hands over time, e.g. a pair of aces