

PROBLEM DEFINITION

Poker is one of the most popular games among game playing agents research area of artificial intelligence. The game of poker has some natural additional characteristics that make it distinct from other games. What makes poker is so special is that it includes unreliable and imperfect information. Handling this bottleneck is mainly our challenge.

MOTIVATION

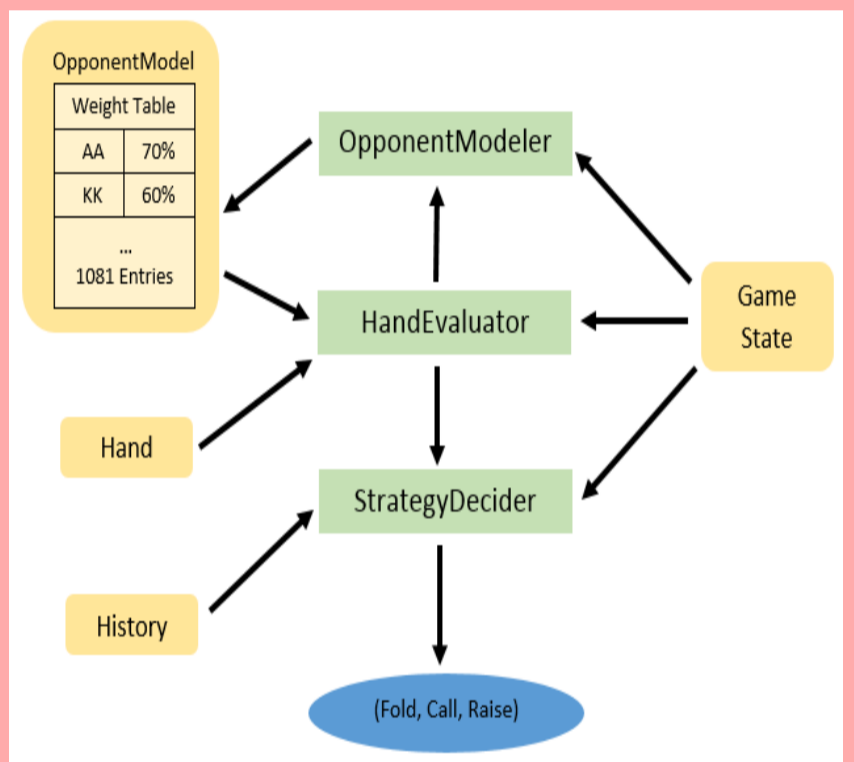
The motivation behind this project is finding an efficient solution to poker game problem which overlaps many different real-life situations in different fields. Such a solution will be also a significant effort to solve a real-life problem. We, A4 team, believe that after a groundbreaking solution is found to this problem, there will be motivation and ready to use knowledge to explore daily life problems including hidden information such as weather forecast, vast transportation system more deeply and this will be a chance to enhance the quality of people's life experiences.

PROJECT DESCRIPTION

Poker Playing Agent project has been started in September 2014 with the intention of seeking effective solutions to famous computer poker problem in result of dynamic enthusiasm of four young computer engineering candidates who wants to explore the limits of computer intelligence. The aim of the project is to bring a successful agent to computer poker literature. Successful in this domain can be described as capability of making rational moves to maximize the incomes, ability of generating real time responses during the game and capacity of winning against at least an average human player. Our agent will be able to logically analyze the conditions and make reasonable decisions based on many different dimensions of imperfect information games. Also, it will learn from the past experiences to enhance the intensity of rational decisions like in the real life. One another feature that will boost the success of our agent will be opponent modelling. In the poker game, opponent creates the hidden information and passing this obstacle with an efficient algorithm will enable our poker playing agent to act according to whom it is currently playing with. To briefly describe our agent, it will be composed of two sub-components: Decision and Learning part. Two will continuously feed each other and create a self-learning agent.

PROJECT STRUCTURE

Components of Poker Playing Agent and their interactions with each other can be seen in the following diagram.



POKER PLAYING AGENT



BY A4

HEVAL AZİZOĞLU · HÜSEYİN AYDIN · ZÜLFİYE ARĞIN · HÜSEYİN ALEÇAKIR

SOFTWARE & TOOLS

We use Poker Academy as a third party tool for our project. Poker Academy provides a Java based API, called Meerkat, which allows developers to adapt their own custom agents into the system. This creates an excellent simulation and testing environment for poker playing agents. With the integration of our agent to Poker Academy, we get the chance to examine our agent's performance by comparing famous agents in literature. A screenshot from Poker Academy can be seen on the right.

