

Project Proposal Final Version 1st Quarter 2008

Computer Systems Project Proposal - September 2008

Billy Melicher period 3

The Implementation of Machine Learning in Checkers,

I aim to create a program capable of becoming an effective Checkers player. I will teach the program the basic rules of the game and then have it play against itself and possibly human players to give it a set of data to work with. It will analyze the data gained from continually playing, and adjust its playing style. The program will also be self correcting and continue adjusting its playing as it plays.

Work that has been done in this area is: Using Experience-Based Learning In Game Playing by Kenneth A. De Jong and Alan C. Schultz, and Learning to Play Games From Experience: An Application of Artificial Neural Networks and Temporal Difference Learning by Daniel Kenneth Olson

I will use java. To test it I will have human players play against it or have it play against another computer agent to test it's skill level.

I expect that the program will be a good checkers player by the end of the project. I think that it will be able to beat a human player, but ultimately the quality of the players that it is playing. However, it is playing against itself so it should continue to increase in skill exponentially. I can graph the skill of the learner over time or how the learning aspect of the program changed over the length of the time it was playing.