Machine Learning Proposal

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Our goal is to create an AI to play Connect 4. We will use many of the ideas that we learned in class such as supervised and unsupervised learning as well as some ideas from our Artificial Intelligence course. We will design mulitple different algorithms using Python to play the game. They will be able to play against humans as well as each other. Our hope is that our AIs will quickly learn to outplay human players. We will train it by playing games ourselves.

Connect 4 is a two player board game. The game board consist of a 7x6 matrix of holes. Players alternate between placing a piece in a column, falling to the lowest open hole in that column. A player wins by connecting four of their pieces horizontally, vertically, or diagonally.

We have done some cursory research into past attempts to solve this problem. We know that it has been solved, but we still think there is value in pairing these different methods against each other.

We hope to determine which method works best for solving this problem. Our presentation will include live demonstrations as well as algorithmic analysis of our methods.

References

John's Connect Four Playground