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CS440 Project Proposal

All intelligent systems are evolutionary. While we can use heuristics to gain some knowledge on a particular state, intelligence is an attribute that allows a system to adapt its strategy to meet its goal over a range of different environments. The presence of phylogenetic systematics in nature make it an obvious contender for being able to create machine intelligence. The main functions necessary for this system are reproduction, mutation, competition, and selection. Our goal for this project is to model such a system to be applied to the game of Othello using a Feed Forward neural network.

To investigate applying a neural network to Othello; we will need to first investigate how a Feed Forward network works, select a Feed Forward implementation available, implement Othello game-play over the neural network, and evolve the network to competent play. To accomplish this, both team members will research Feed Forward networks and come to a consensus on the backend library which will serve as the network used for training competent gameplay. We will then split the work and one of us will implement the Othello game while the other creates the framework to train the Players. When both of these are complete we will attempt to train on quiet machines within the department building while writing the report.

Milestones:
1. Oct 27: Complete preliminary research on Feed Forward network and select library to use.
2. Nov 21: Complete Othello implementation.
3. Nov 23: Complete training module implementation.
4. Dec 12: Finish evolutionary training and extract results.