A Machine Learning Approach to Pokemon Battling

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Artificial Intelligence (AI) research in games of incomplete information has increased over the past few years, primarily due to the valuable challenge it provides to new solving techniques and its use as a better model for real-life situations. Pokemon offers a unique game of incomplete information in its high vector space state and stochastic nature, and thus is a worthy task in AI research. Past work in Pokemon has used reinforcement learning as a primary strategy, but the Machine Learning (ML) and game theory techniques used in recent Poker research by Brown and Sandholm offer an intriguing solution to this problem. This project uses a python environment to access and interact with the Pokemon Showdown battling simulator, and will test a series of heuristic modules, as well as abstraction and Counterfactual Regret Minimization (CFR) modeling in pursuit of creating an AI that can outperform basic heuristics and a random agent in a statistically significant manner.

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