

# Computers *Attempting* to Kick Human Butt at Connect 4

Ben Andrews & Jimmy Hickey

January 9, 2018

## **Abstract**

Connect 4 is a two player, adversarial game in which the players take turns placing pieces on a board. The first player connect four pieces in a line wins. Artificial intelligence scholars became interested in this game and it has since been mathematically solved, that is there is always a definite correct move. For a user, however, playing against a machine that always makes the perfect move and thus always does not create a meaningful experience. Thus, there is a need for a computer player that is good, but not perfect. Through supervised learning algorithms, a machine can be taught to play this game well, but with some inherent flaws due to the stochastic nature of supervised learning. Applying these methods offers a way to generate computer players that can play at different skill levels, offering a purposeful experience to any human player.