Computers *Attempting* to Kick Human Butt at Connect 4

Ben Andrews & Jimmy Hickey

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Abstract

Connect 4 is a two player, adversarial game in which the players take turns placing pieces on a board; the first player to 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 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 introduces a procedure to generate computer players that can compete at different skill levels, offering an enjoyable experience to any human player.