

A.I. Tic-Tac-Toe

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The purpose of this project was to create a working program that was capable of challenging someone to a game of Tic-Tac-Toe. I coded the basic A.I. using HTML, CSS, and JavaScript coding. Once successful, the program would be modified to the point where no person would be able to win against it. The working A.I. falls under the category of a reactive A.I. as the A.I. is able to react to the stimulus. It is meant to perform and does not predict the best move possible that a player would take. The "unbeatable" A.I. falls under the category of the limited memory A.I. as the program is able to predict a player's best move and prevent the player from taking said action by blocking the player. The conclusion of this project conveys that an A.I. can be created that has the capabilities to play Tic-Tac-Toe with the possibility of winning, losing, or tying as the human player won on average 92% of the time. The conclusion also shows that the A.I. can be improved using the minimax algorithm, which is an algorithm in game theory and decision-making to determine the next best move the A.I. should take in order to never lose. The human player can only lose or tie as the win rate was 0%.