

# Chess using AI Review

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**Abstract:** *This research paper explores the development of an AI chess engine leveraging the Minimax algorithm with Alpha-Beta pruning technique, implemented using Python and JavaScript programming languages. The objective is to investigate the effectiveness of these algorithms in creating a proficient and competitive chess-playing AI. The paper begins with an overview of the Minimax algorithm and its application in game theory, followed by an explanation of Alpha-Beta pruning and its role in enhancing the efficiency of the search process within the game tree. Subsequently, the implementation details of the AI chess engine in both Python and JavaScript are discussed, highlighting the design considerations, algorithmic optimizations, and programming techniques utilized. The paper also provides insights into the integration of the AI engine with a graphical user interface (GUI) for interactive gameplay experiences. Additionally, experimental results and performance evaluations are presented to assess the AI engine's strength and playing capabilities against human players or other AI opponents.*

**Keywords:** AI Chess Engine, Minimax Algorithm, Alpha-Beta Pruning, Python, JavaScript, Game Theory, Graphical User Interface, Game Development, Artificial Intelligence, Programming, Performance Evaluation

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