

Application of minimax search algorithm and alpha-beta pruning technique in programming board games (gomoku, caro, chess) on Android operating system

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Abstract: In the context of the growing development of information technology, optimizing strategy games such as Gomoku, Caro, and Chess has become important. This topic focuses on applying the minimax search algorithm combined with alpha-beta pruning techniques to improve the performance of game programming systems on the Android operating system. The main objective is to build an artificial intelligence game platform capable of playing well against human players while ensuring fast and efficient execution speed. Through practical experiments, the topic aims to demonstrate that using optimized search algorithms such as alpha-beta not only improves game quality but also expands application prospects in various other fields of game AI.

Keywords: Game AI, Minimax, Alpha-Beta Pruning, Android Development, Chess