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Course: CMPSC 442

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Project 2 Responses

Video link for games 2-10: https://psu.mediaspace.kaltura.com/media/t/1_c16a7ncl

First game (I had to record again as I messed up the second one, the first game ends at 16:05 and the video above contains the rest):

https://psu.mediaspace.kaltura.com/media/442%20Gameplay/1_ogqcdu5r

calculateb

This function in the chess-game-AI-project/player/AI.py evaluates the worthiness of a non-terminal state of the chess board.

1. Initialize the value to 0, which will be updated with respect to the evaluation of the position on the board.
2. Iterate over the chess squares (64 total) and retrieve the information about each square.
3. On each square, calculateb checks for a piece and identifies it. After that, every square has a piece associated with it along with their significance in the current position.

Piece Significance:

Pawns hold an absolute value of 100, and are the least valuable out of all. The AI plays for the black side, so a black pawn adds to our evaluation while a white pawn decrements it.

Knights hold an absolute value of 350, and I assigned a value of 375 to bishops as a pair of bishops is stronger than other combination of knight(s) and/or bishops. Same logic for the evaluation as from the pawns.

Rooks hold an absolute value of 525. Same logic as with pawns – white rook subtracts while black rook adds.

Queens hold an absolute value of 1000, being the second most valuable piece.

Kings hold an absolute value of 10000, being the most valuable piece. Since the king can't be captured, it might confuse our agent or help it prioritize king safety.

More thoughts

After the function assesses the board, it returns the evaluation (value). A positive value means that black has an advantage, while a negative score means white has an edge.

The evaluation function only considers the piece value and doesn't take strategic elements or the positional aspect into account.