AI Term Project - Draughts

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Introduction

What is Draughts ?

It is a group of strategy board games for two players which involve diagonal moves of uniform game pieces and mandatory captures by jumping over opponent pieces.

Draughts developed from alquerque. The name derives from the verb to draw or to move.

Why we choose to develope this game's AI ?

We know that there are many board games we can choose, but the reason we choose to develope draught's AI is that this game's rule is simple.

While this game is simple, we can add some interesting rule to make this game more funny.

Then we will develop excellent AI for playing this "special" game. At last, we won't be worried about there are no people playing with us.

Rules

Despite the original rule, We add some interesting rule to this game :

- After being captured, the piece becomes a body, and will be removed by being captured again.

- A sequence must capture the maximum possible number of pieces.

- Left side border and right side border no longer exist.

AI

Strategy
We will use alpha-beta pruning instead of minimax algriothm due to the branch vector of our game is very big.

Challenge
Our biggest challenge is to design a good utility function. If the utility function doesn't work will, AI will be very difficult to beat rival.

Solution
At first, we will apply an artificial utility function. Then, We will adjust this utility function by using Machine Learning toolkit.