DS5102 Intro to Artificial Intelligence HomeWork

Done by

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**Project Idea**: Chess Engine

**Problem Statement**: Create a Chess Engine From Scratch with ELO of at least 1000.

**Agent**: The agent for this problem statement is a chess engine.

**Task Environment**: The task environment is an 8x8 tile chess board with the rows labeled from 1 to 8 and columns labeled a to h. There are 16 pieces on each side (8 pawns, 2 bishops, 2 knights, 1 queen, 1 king, 2 rooks). Chess is a 2 player game where players take turns making a move. White always starts.

**Actuators**:

Live chess:

1. Robotic arm

Online chess

1. Screen
2. Speaker

**Sensors:**

Live chess:

1. Camera

Online chess

1. Mouse
2. Keyboard

**PEAS**:

| **Performance** | **Environment** | **Action** | **Sensor** |
| --- | --- | --- | --- |
| Win rate | * Each piece must follow its respective rule * Each player has a set amount of time to play * When the king is in check, the player should get the king out of check | * Move * Pause * Surrender * Offer draw | Memory |

**Categorization:**

1. Full observable
2. Strategic
3. Squencial
4. Semi dynamic
5. Discrete
6. Multi agent