



Project Mid-Evaluation Report: Tetris AI Trained

Project Members:

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Fast Tetris

Project Overview:

The Tetris AI Trained project aims to develop an artificial intelligence system capable of autonomously playing Tetris. The project is a full-fledged Tetris game in Python using `Pygame`, with both human and AI gameplay functionalities. Our objective is to train the AI model to make strategic moves based on heuristic evaluations and optimize its gameplay performance.

Accomplishments So Far:

1. **Game Development:** Developed a comprehensive Tetris game in Python utilizing `Pygame`. The game features conventional Tetris shapes and grid, along with statistics display. It has two profiles one for the human and the other is designated to artificial intelligence.
2. **AI Initialization:** Successfully initialized the AI model to play the game autonomously, engaging with the game environment and making decisions.
3. **Heuristic Evaluation:** Assigned rewards, scores, and penalties to measure the effectiveness of different heuristics in gameplay.

4. **GitHub Implementation:** we have initialized a git hub repository. We are maintaining the flow of the project.

Challenges Faced:

We encountered challenges in determining the optimal heuristics for the game. Overcoming these challenges required extensive research, analysis, and experimentation. Through collaborative effort, we identified and refined four to five essential factors necessary for the AI's effective gameplay.

Next Steps:

Our next objective is to enhance the AI's decision-making capabilities by enabling it to anticipate and optimize moves based on the upcoming shape in the game sequence. This will involve implementing algorithms to predict future shapes and integrating them into the AI's decision-making process.

Conclusion:

The Tetris AI Trained project has made significant progress in developing an autonomous Tetris-playing AI. Despite facing challenges in determining optimal heuristics, we have overcome them through research and analysis. With the upcoming implementation of shape prediction algorithms, we aim to further enhance the AI's gameplay performance and contribute to the advancement of artificial intelligence in gaming.

Date of Report: [19th march 2024]
