VIRTUAL ASSISTANT

REVOLUTIONARY

Team Details

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Description

We'll be developing a chess bot powered by a fully connected neural network trained on data from chess Grandmasters and advanced chess engines. This will be incorporated with the Alpha-MCTS search algorithm to help the bot excel in identifying optimal moves based on the current game conditions. We target an Elo rating of 2400 prioritizing minimal training steps. We're also aiming to create a full stack application to incorporate the model within.

Motivation

Our motive is to gain knowledge of different data structures used to represent abstract tokens like chess moves and train a neural network on such data which requires comprehensive data pre-processing. We're also aiming to get into depth of algorithms such as the Alpha-MCTS search algorithm which is largely incorporated in 1v1 games.
We also aim to gain knowledge regarding front-end user experience and connecting the back-end of the application with the model via API calls.

Flow Sheet of Idea

Tentative Plan:

- Create a chess environment allowing only legal chess moves
- Scrape through GM and advanced chess engine data and generate proper dataset.
- Research into suitable and complex neural architectures for the dataset that we've built so far.
- Create a proper front-end application incorporating the chess environment.
- Link the application to the model via API calls using backend technologies.

Current Solutions / Market Demand (Optional)

What are the alternatives existent in the market, if it's an entirely new solution who do you think will be the stakeholders

Aim for In-Sem Phase (May 2023)

Aim for the month of May will be to work on the chess environment on our programming language and to incorporate only legal chess moves

Personal Learning

As stated earlier, the project will allow us to learn about different data pre-processing methods as the data in this specific case is quite volume intensive. This opportunity will also give us a chance to delve deep into various ML algorithms, especially those involved in 1v1 games such as chess, tic-tac-toe, etc. during our model research. Finally, we'll also be building a complete full stack app which offers a lot to learn in itself. This project will give us the opportunity to explore a great deal of the currently evolving technologies.