CHESS DEVIL AI

Chess

DevilAI vs

Magnus Bot

Training Process

Data Collection

Data Processing

Training the bot

Testing the bot

Creating game

Data Collection

Collect the FEN representation of the chess board position and identify the best move to perform in the UCI form. For this, open-source databases like Huggingface and Kaggle could be used or else Lichess database directly can be a great option

Sample Data Format

```
{
    FEN: [fen_rep],
    MOVE: [next_move]
}
```

What is FEN?

Forsyth-Edwards Notation (FEN) is a standard notation for describing a particular board position of a chess game. The purpose of FEN is to provide all the necessary information to restart a game from a particular position.

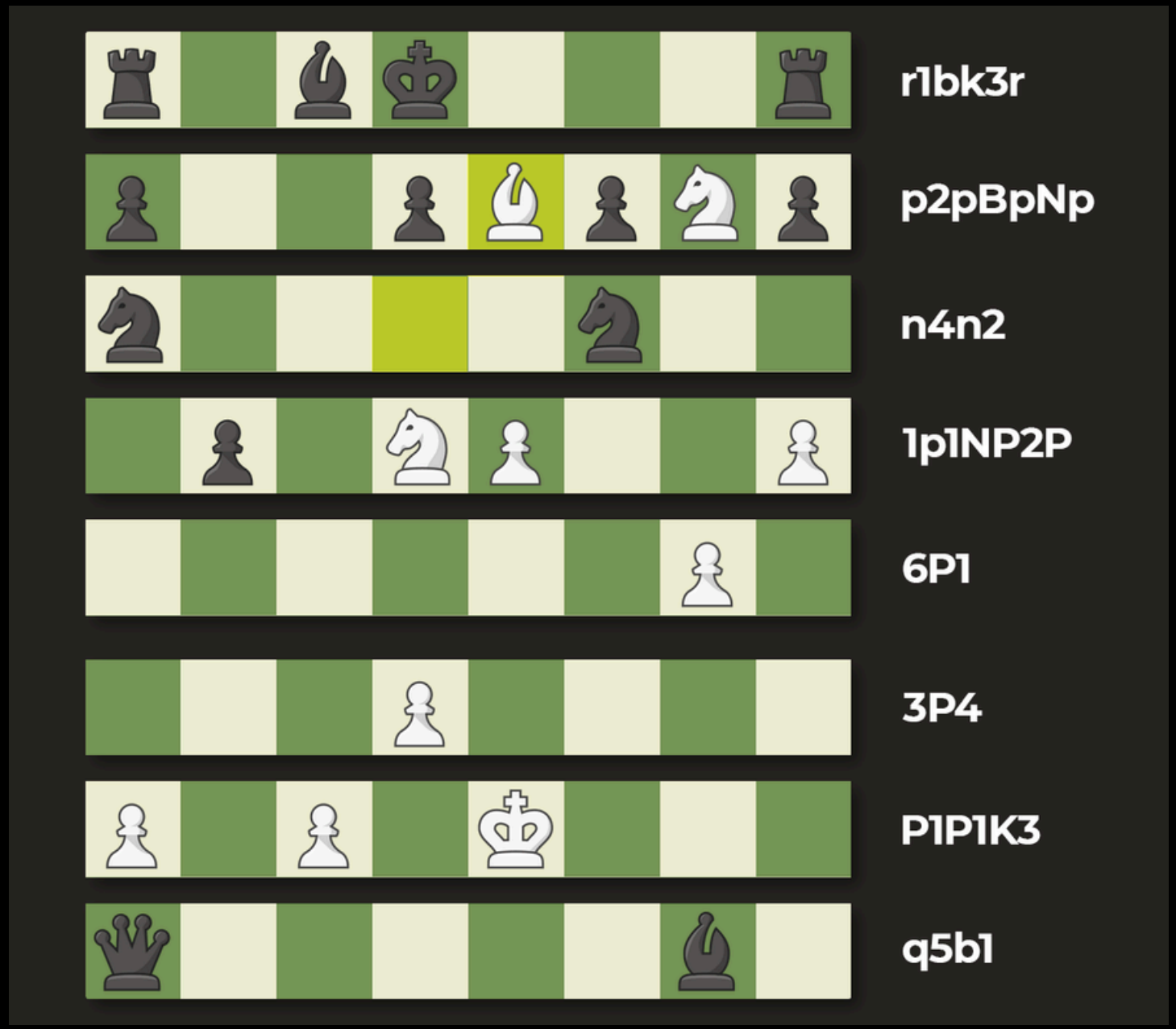
Example

Board

Notation

r1bk3r/p2pBpNp/n4n2/1p1NP2P/6P1/3P4/P1P1K3/q5b1

Explanation


r1bk3r
p2pBpNp
n4n2
1p1NP2P
6P1
3P4
P1P1K3
q5b1

UCI Next Move?

The Universal Chess Interface (UCI) is an open communication protocol that enables chess engines to communicate with user interfaces.

Example: First Move e2e4

Explanation

e2 - Source Position of Piece

e4 - Target Position of Piece

So the piece at e2 is moved e4 regardless of what piece it is

Data Processing

Data Formatting - Formatting the input data as a common prompt/input format

Tokenization - Convert the formatted input into tokens - suited to model as input.

Examples

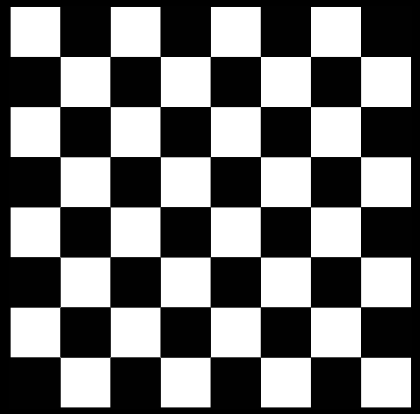
Formatted Input -> “FEN: {fen_seq} MOVE: e2e4”

Tokenized Input:

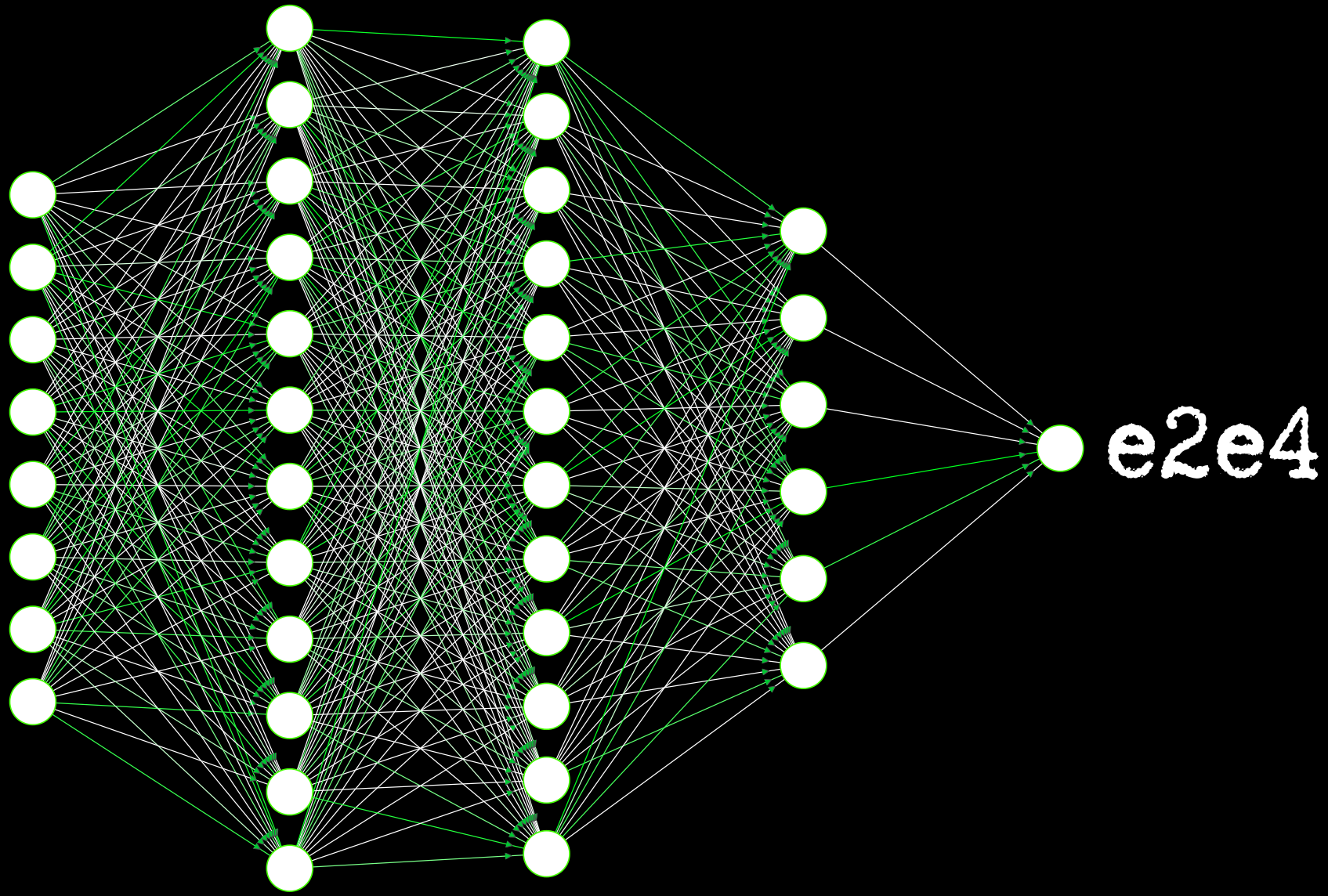
Input: MOVE: e2e4

Output: [“MOVE”, “e”, “2”, “e”, “4”]

Training The Devil



rIbk3r/p2pBpNp/n4n2/IpINP2P/6PI/3P4/PIPIK3/q5bI



Chess Devil AI Training Itself

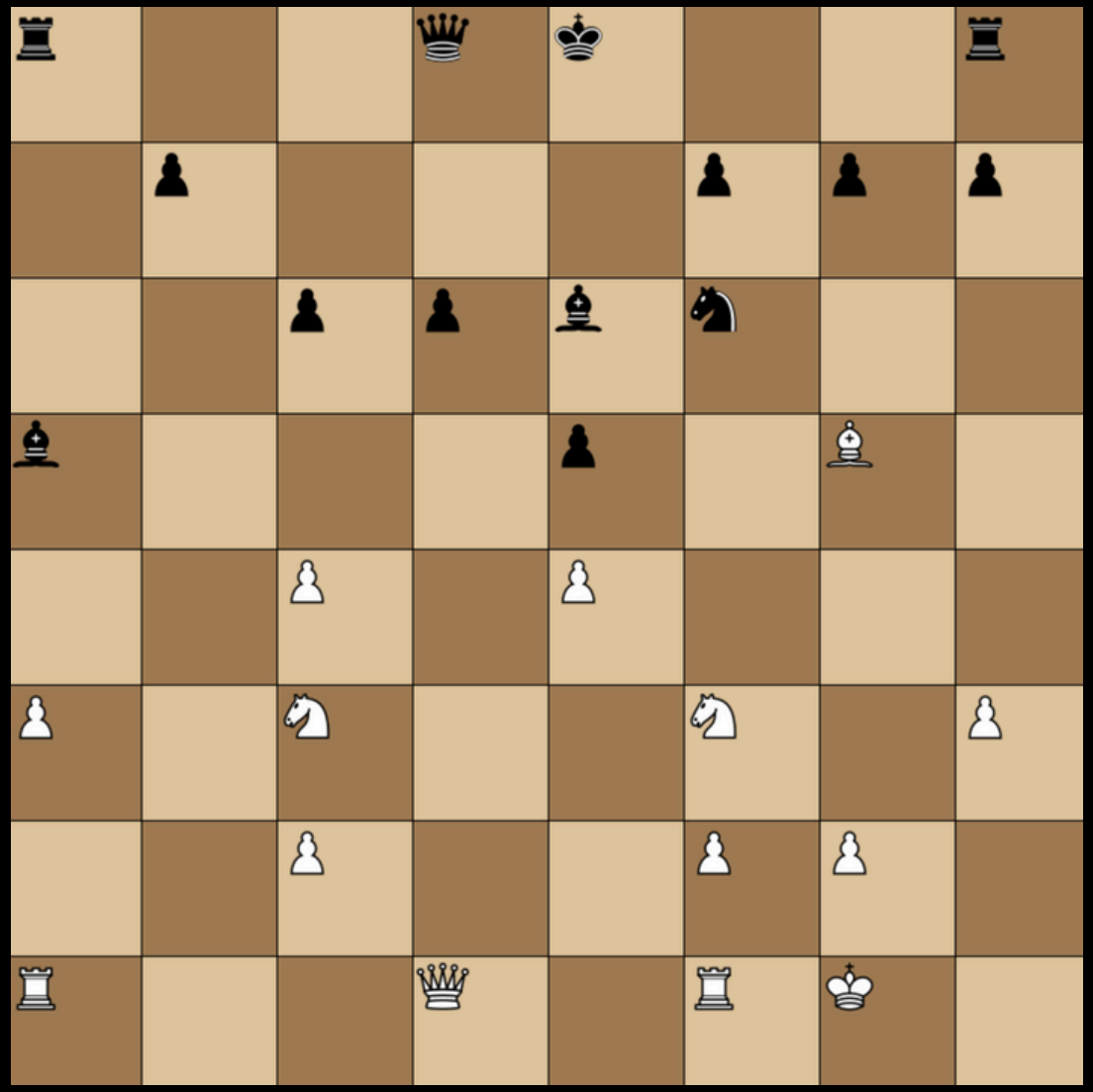
Testing The Devil

Example

Chess DevilAI vs Magnus Bot

It was a serious fight between my bot and Magnus bot finally after a small mistake my model made Magnus bot made the best out of it and delivered checkmate after 50 moves

Creating the game



To play locally with an interface rather just inference in TEXT a game is created using Pygame which will allow you to play against your bot in real-time.

Next Steps