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DuQIS Chess

Project Goals:

- Create a chess engine that can take advantage of Quantum Algorithms
- Engineer a way to create a Neural Network that can take advantage of Quantum Advantages
- Collaborate effectively

Learning Goals:

- Qiskit and python
- Potential of Quantum Computing
- Neural Networks and Gradient Descent

Grounded statements:

- Will not magically be the best chess engine in the world, will at most be a proof of concept
- Will most likely be starting with a reduced board state
- Will be a lot of trodding and brain-hurt
- May not necessarily end in a successful project (Though personally I am confident that it will)

Expectations:

- This is an idea I wish to pursue, not a class.
- Keep up with weekly meetings (or your group meetings). Attendance is easiest, but as long as you ask around and we document correctly you will be fine.

Brief Overview:

- Step 1: Choose Scope
- Step 2: Positions and Possible Positions
- Step 3: Engine to determine the ‘value’ of a position
- Step 4: Map inputs and engine to a format usable by a quantum computer
- Step 5: Design an algorithm to use a quantum search across said engine
- Step 6: Design a ‘maximum’ finding algorithm with quantum advantage
- Step 7: Return value, and compare to classical equivalent.