Team 9: ChessBot

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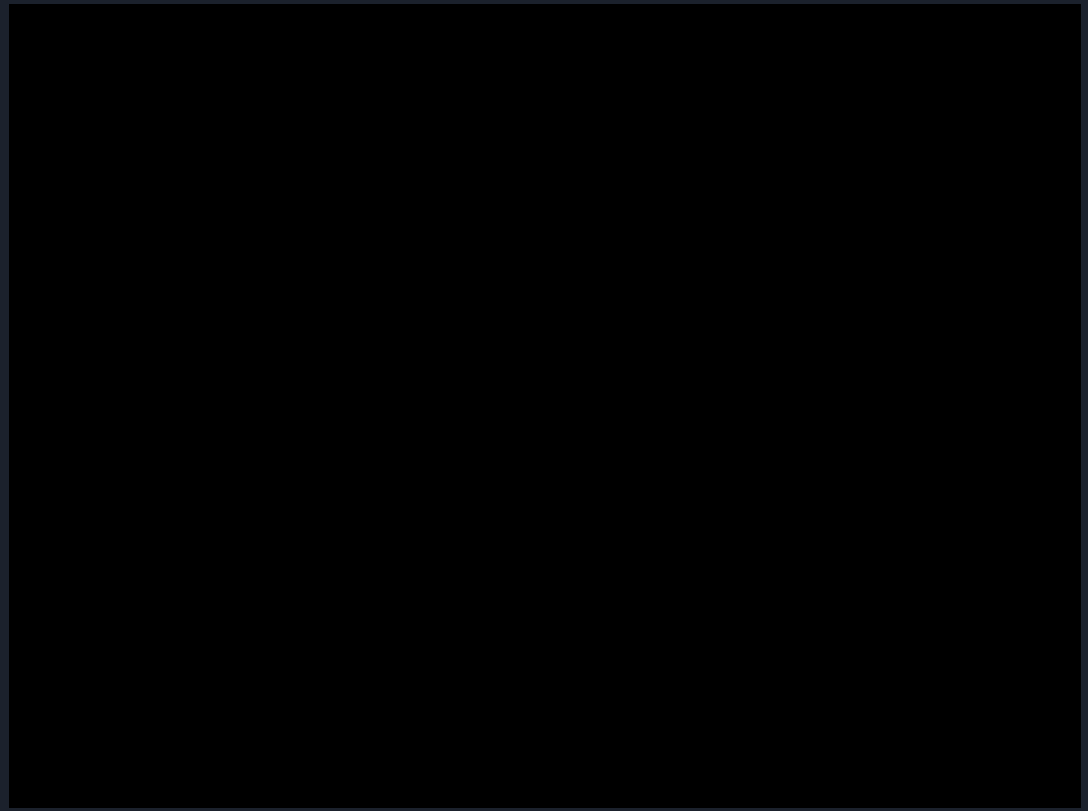
Goal

Utilize a robotic arm to move chess pieces on a board with user input with the hope of eventual integration with StockFish.

Demo



Key Methods

- Inverse kinematics
  - End point for each tile → IK → Arm movement
- Gripper
  - Add gripper actuation
- 3D Printing
  - 18x18 cm, PLA w/ 20% infill, holes for press fit magnets

Key Challenges

- Drift and Not vertical placing angle
  - Combatted using magnets
  - Adjust the placement of the board (Both code and physically)
- Limited workspace
  - Custom chess board and pieces
- Board tolerances
- “Slippy Pieces”
  - Change gripping interpolation loop index

Thanks You!