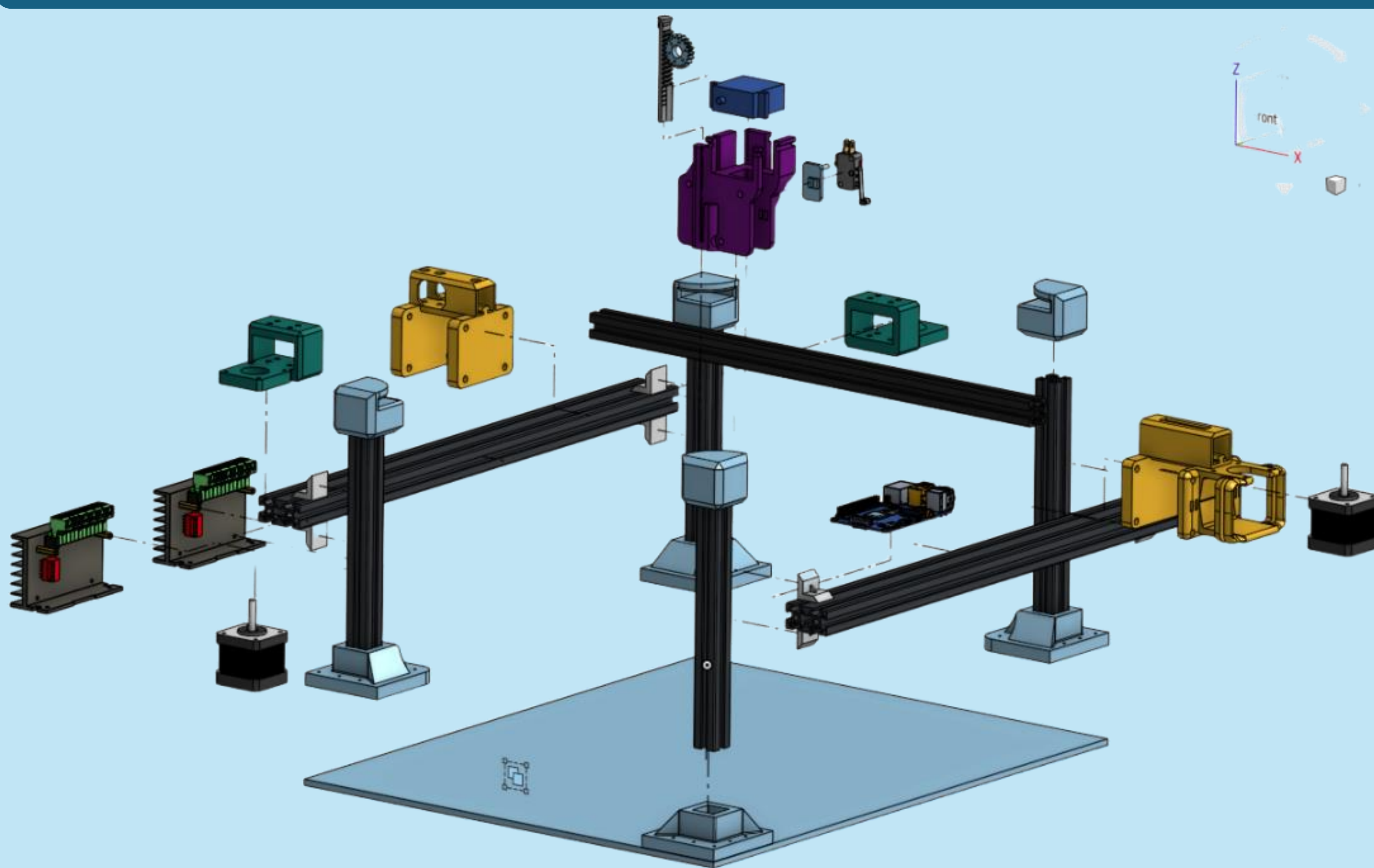# Chess Robot

Team: Daniel Shur, Dror Chen and Uri Seligmann

Overview

Our Chess Robot is a physical single-player chess interface.
Using a magnet mounted to a three-axis system hidden underneath the board, our program is able to physically move chess pieces and play entire games at different skill levels. Moreover The system maintains precision via a semi-closed feedback loop, utilizing camera-based visual recognition after each move to ensure near perfect board-state synchronization.
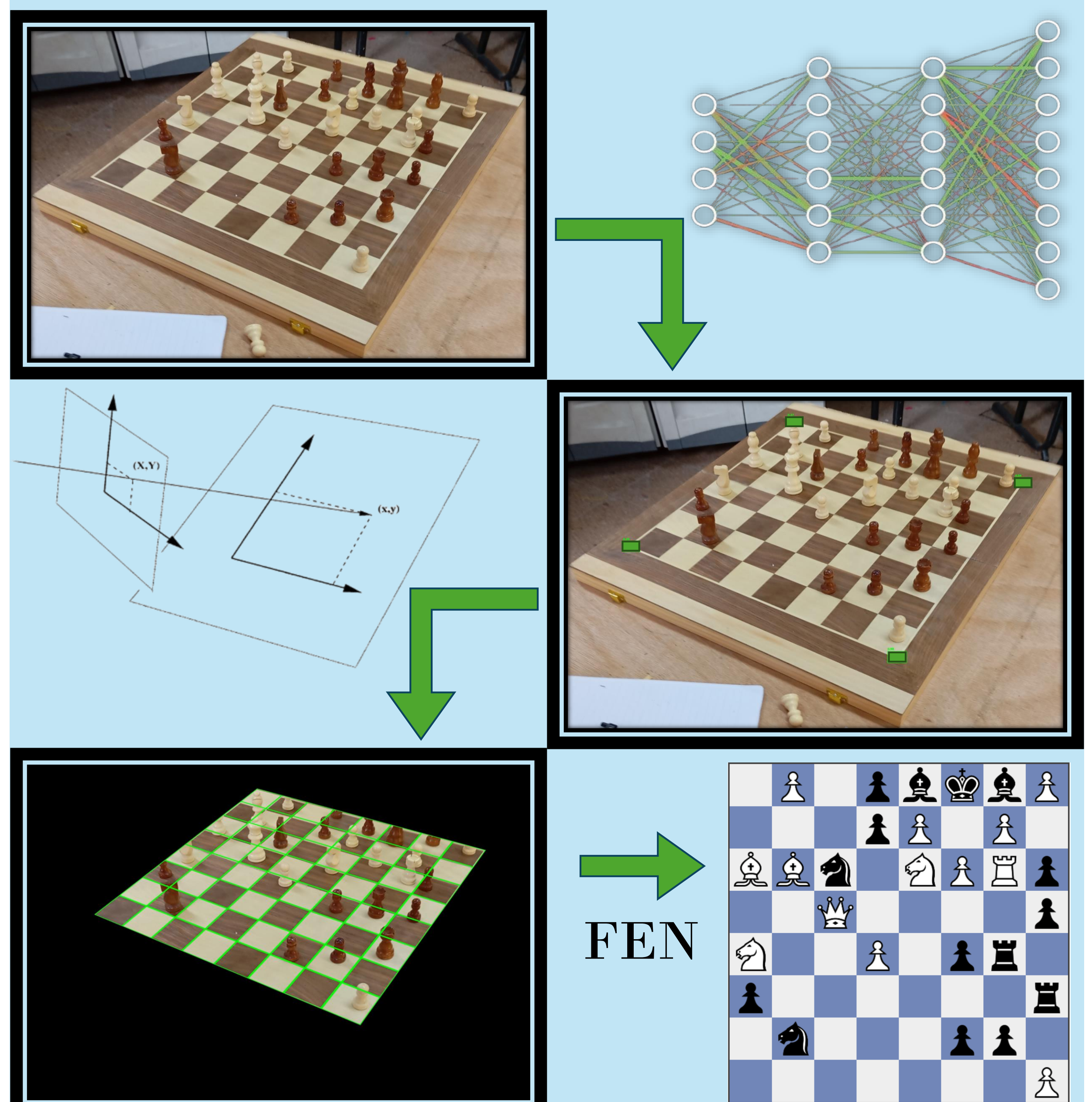
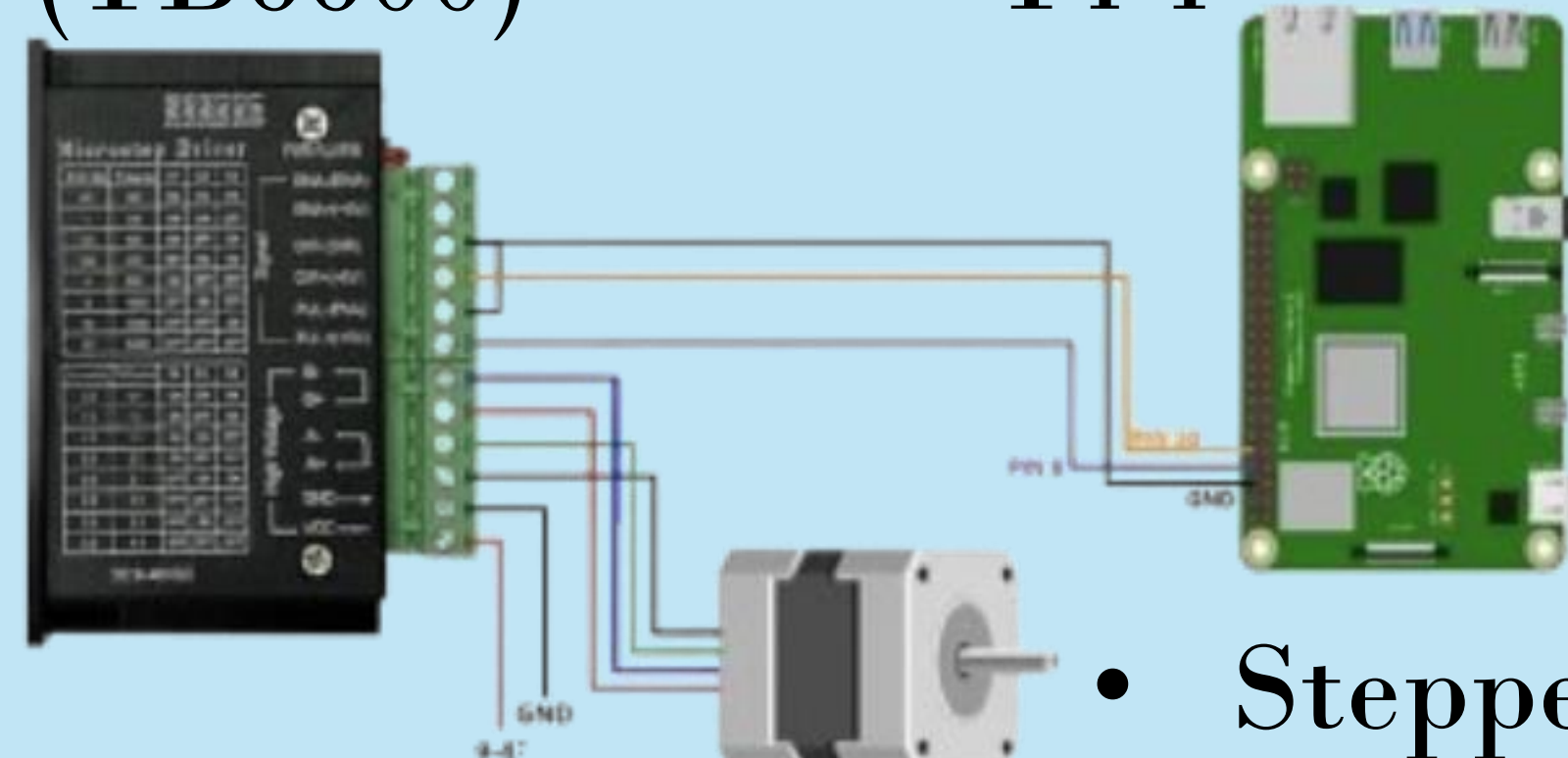## Mechanism's Exploded View (Simplified)

Interface

As simple as arranging a chess board and flipping a switch!

Visual Recognition Algorithm (Simplified)

FEN

Hardware

- Motor Driver (TB6600)
- Raspberry Pi 4
- Metal Gear Servo Motor (MG995)
- Stepper Motor

Y & Z Axis Slider Evolution

V1.3.0	V2.0.0	V2.2.0	V2.2.1	V3.0.2
Basic	Combined Sides	Strap Fasteners	Threaded - Z Axis & Magnet Connector	Spur And Rack Gear - Z Axis & Servomotor Connector