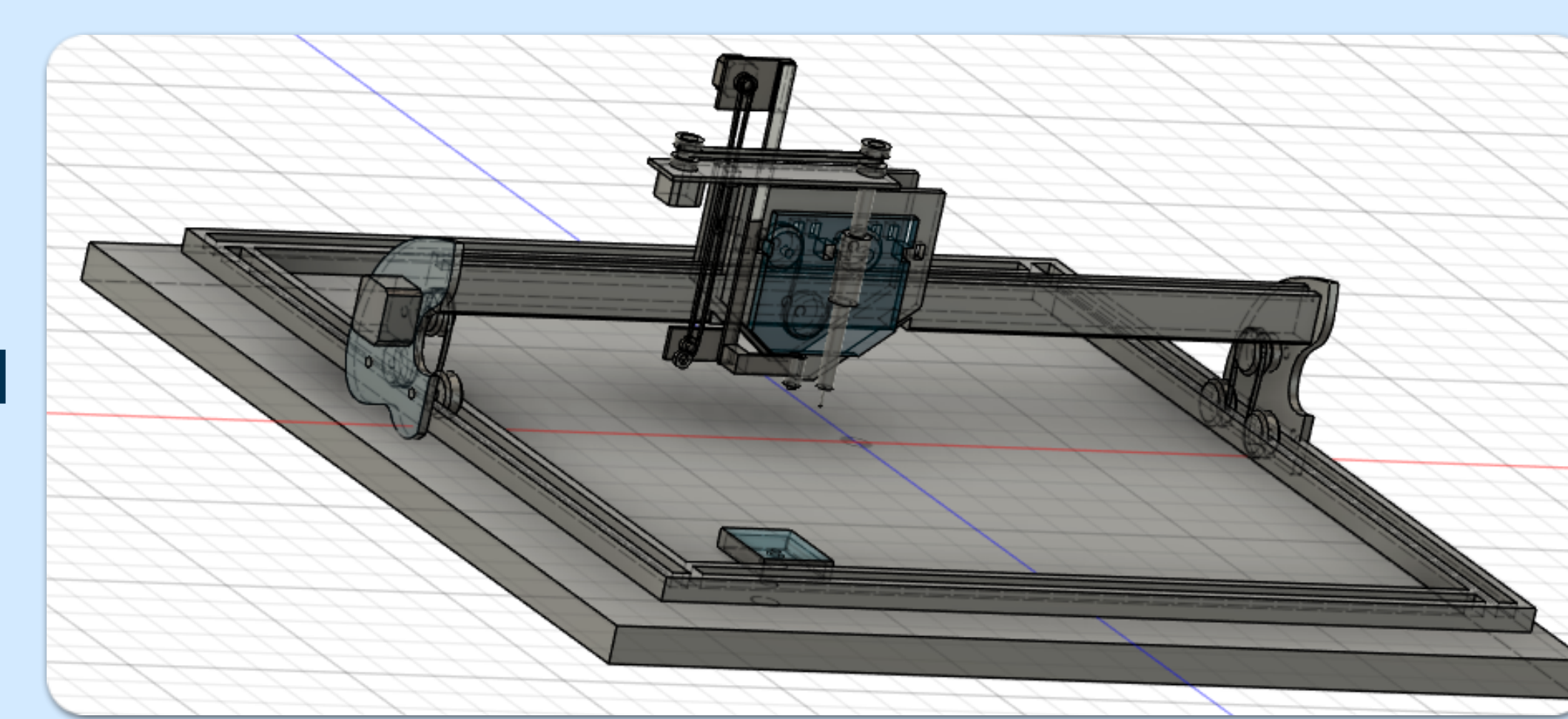


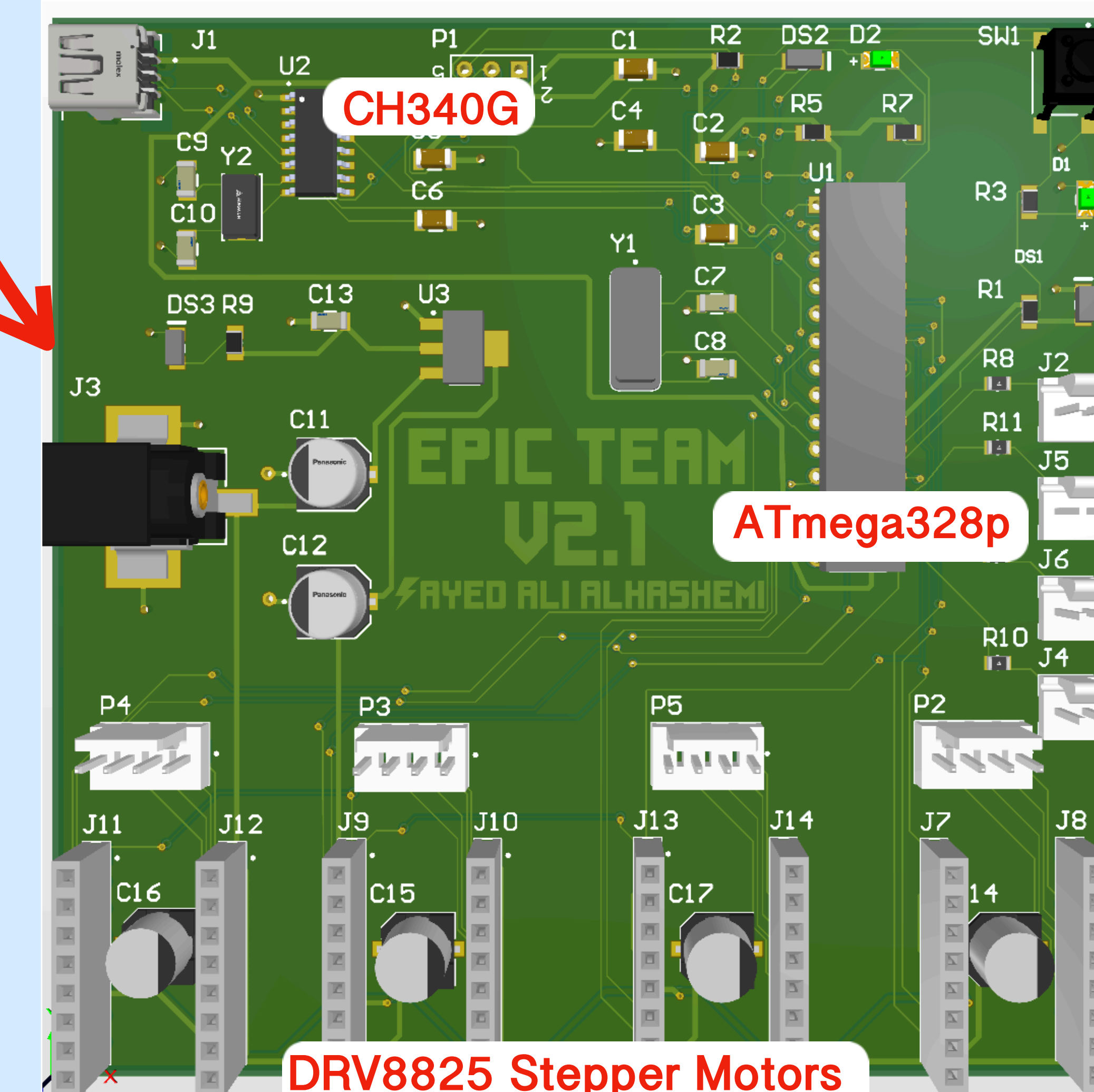
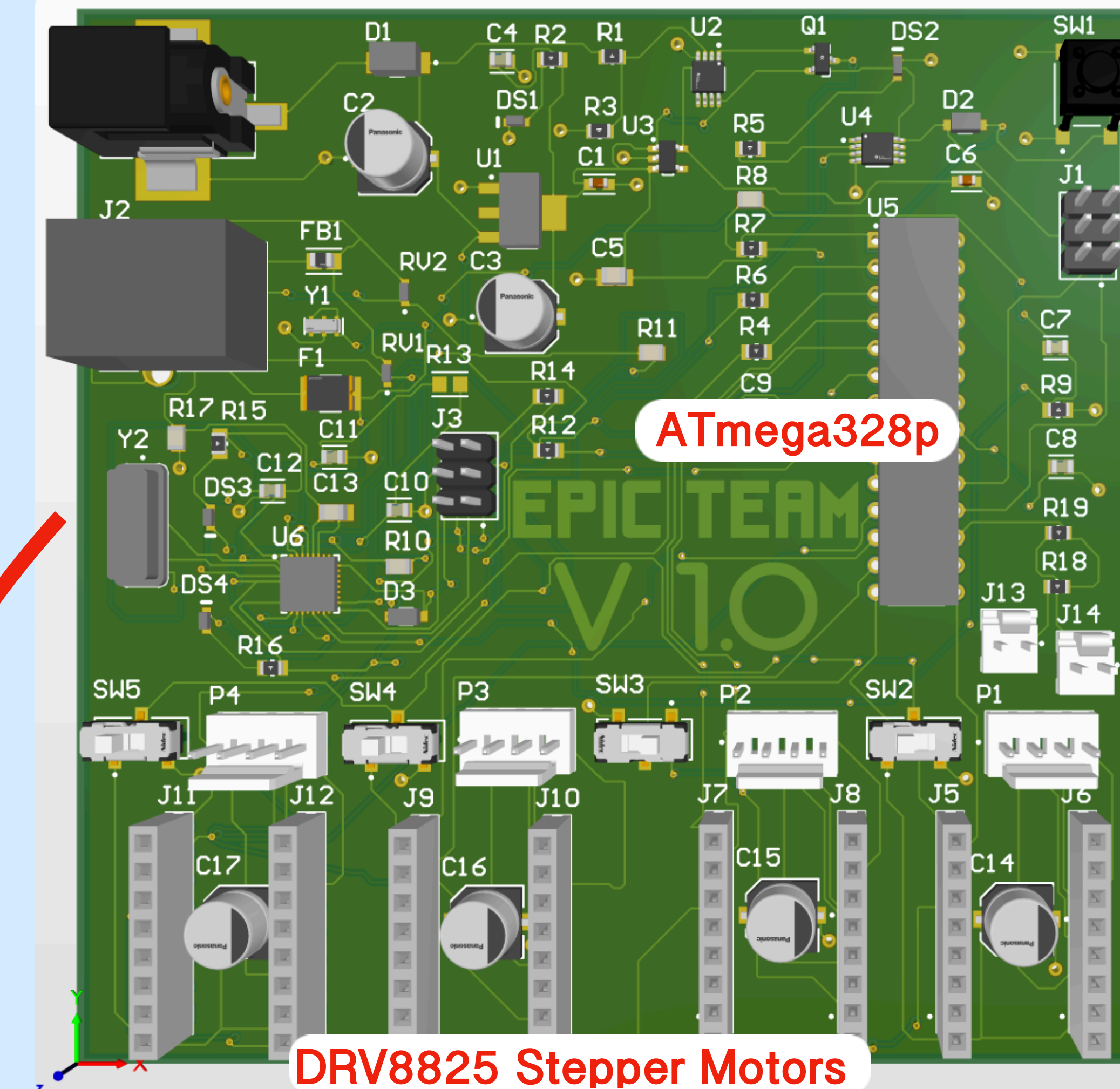


Semi-Automatic Pick & Place Machine

E-pic Team: Ali AlHashemi | Hamad AlSaleem | Gala Bokhadour | Michael Pogrebitskiy | Hanzhang Yu
 Sponsor: Integrated Teaching & Learning Laboratory | Lauren Darling



PCB Design Journey

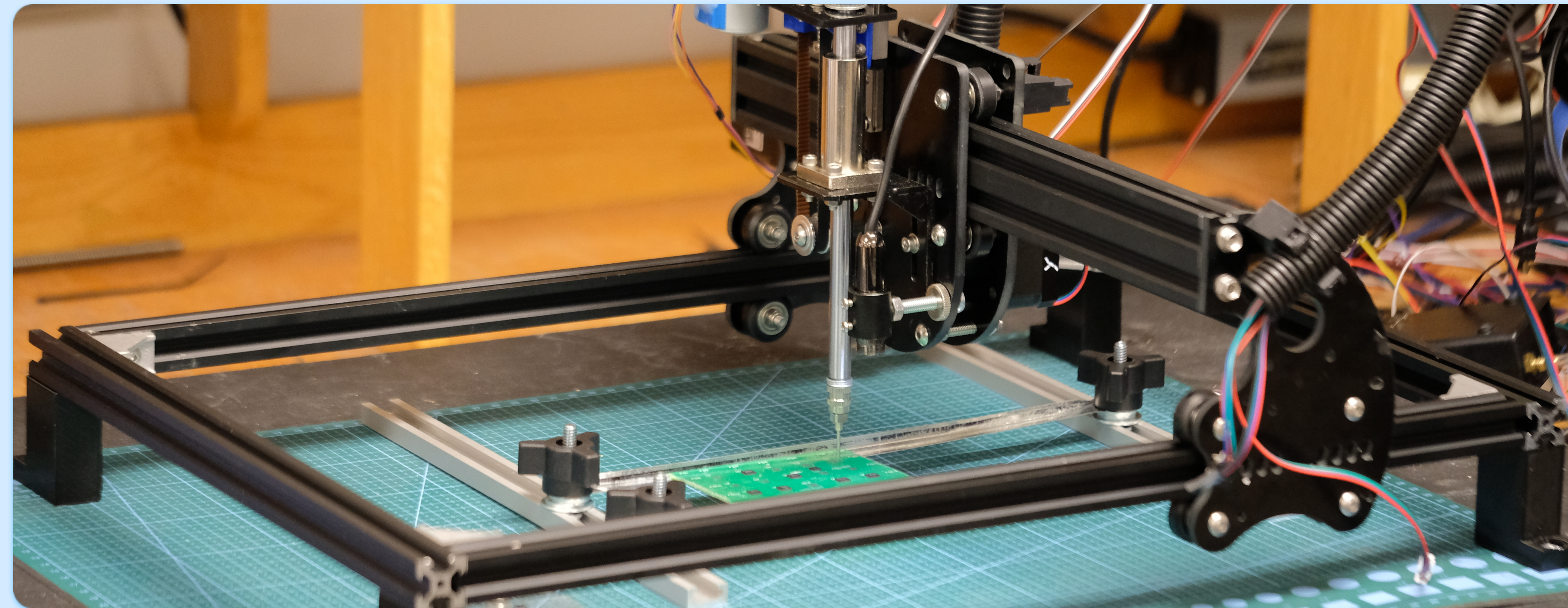
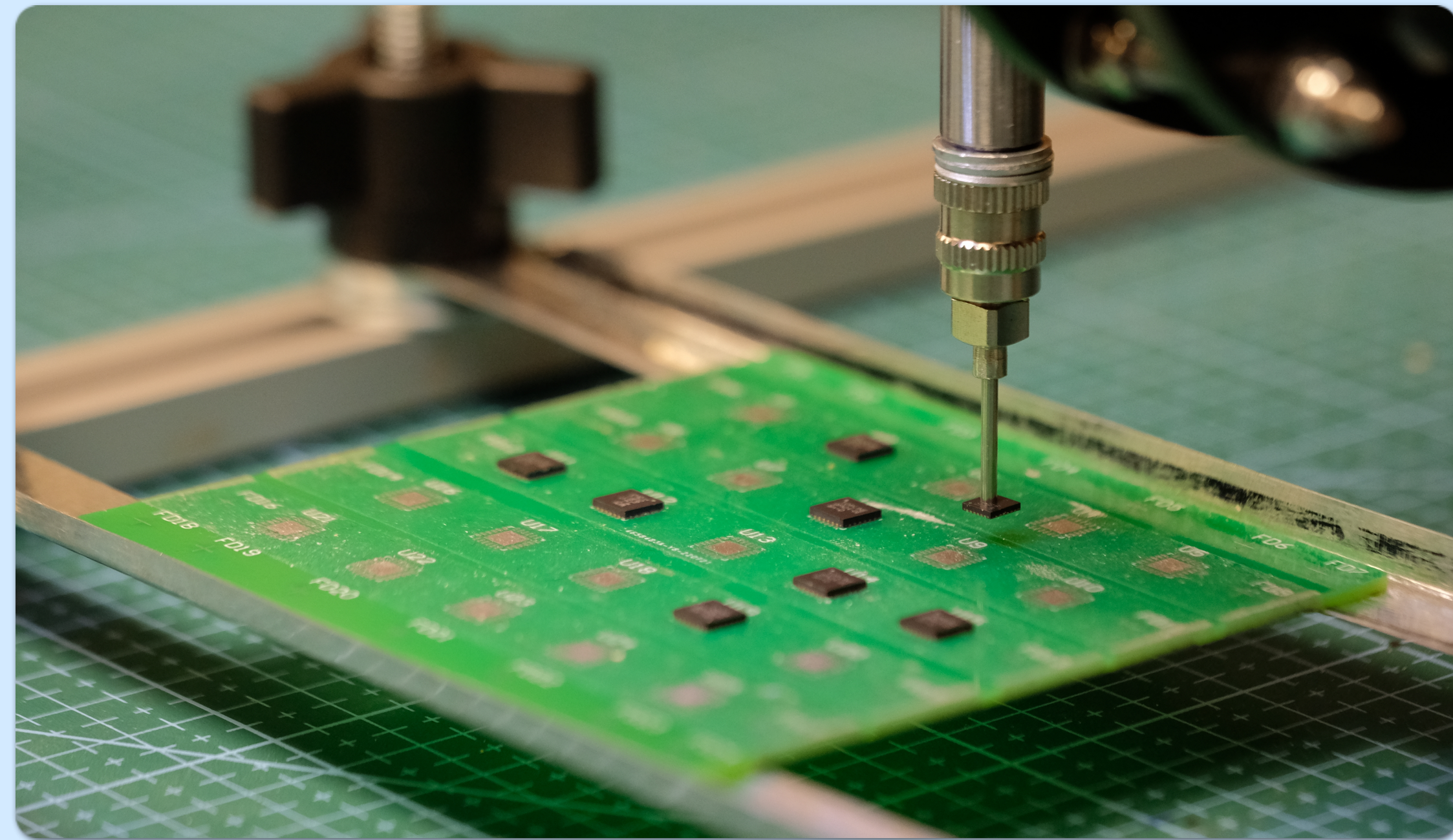


Software Features

- GUI with top/bottom camera view
- Chip angle alignment
- Homing calibration
- Automatically drive the nozzle to a target coordinate
- Manual/Auto switching

Product Objective

- Ease of lead-less IC placement on PCBs
- Computerized calibration of position and orientation
- High definition optical visualization



Problem

Placing lead-less microchips on PCBs by hand takes a lot of time, precision, and frustrating

Solution

With our product, the user can be confident that the chip will be placed correctly in terms of orientation and location

Features

- Cameras to accurately choose important points for calibration
- Vacuum pump to gently pick up and place chips
- Capability of accurately rotating said IC to align with the pads on the PCB

System Diagram

