



# AARON BECKER

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## ABOUT

## EDUCATION

## EMPLOYMENT & EXPERIENCE

Undergraduate at MIT with a passion for electromechanical engineering and programming; excited to tackle new challenges in robotics, space, and automotive industries.

### **Massachusetts Institute of Technology, Class of 2025**

Candidate for B.S. in Mechanical Engineering and Computer Science Minor

Expected Graduation: 2025. [GPA 4.8/5.0](#)

Relevant Coursework: Dynamics and Controls I & II, Mechanics and Materials I,

Thermal-Fluids Engineering I, Design and Manufacturing I, Elec. & Mag.

Additional MechE Skills: CAD ([SolidWorks](#), [Siemens NX](#)), CAM (NX, Fusion 360),

CNC (manual mill and lathe), 3D Printing, Waterjet, Benchtop and Hand Tools

Additional CS Skills: [Python](#), [C/C++](#), JavaScript/HTML/CSS, Git, PCB Design

Language Skills: Limited working proficiency in Spanish

### **Power Electronics Intern, Tesla (May 2023 – August 2023)**

- Developing high voltage power conversion systems in next gen. products
- Mechanical work focused on volume manufacturing challenges with iteration in design to meet cost, assembly, and thermal considerations
- Responsible engineer for tightly integrated components for production

### **Powertrain Lead, Mechanical, MIT Formula SAE Team (Oct 2021 – Present)**

- 2021: Responsible for design + static and dynamic analysis of braking system
- 2022: Responsible for manufacturing + assem. of 4-wheel-drive gearbox
- 2023: Elected Powertrain Lead, leading team of 15+ people & vehicle parts

### **Mechatronics Engineering Intern, Rain Industries (May 2022 – July 2022)**

- Responsible for CAD, integration, and assembly of flight-ready hardware
- Wrote a live 3D fire and vehicle visualization tool in React/Python

### **Hardware Engineering Contractor, Zing Drone Delivery (Jan 2022 – Jun 2022)**

- Engineering and development of Zing's winch delivery product
- CAD, PCB design, and software written, meeting complex design specs

### **Avionics and Liquid Propulsion, MIT Rocket Team (Sep 2021 – Jan 2022)**

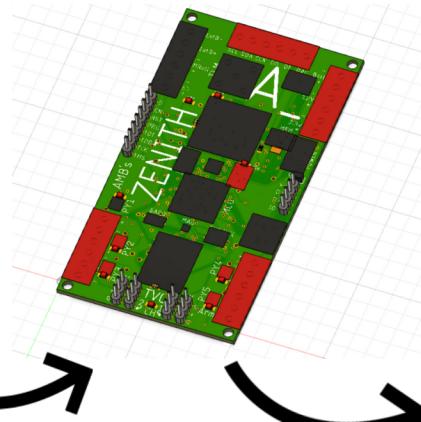
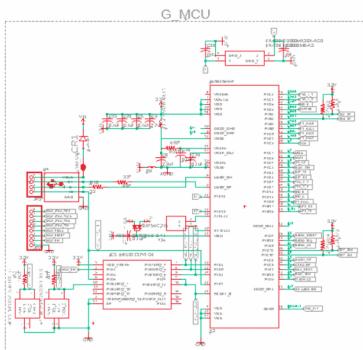
- Embedded firmware: testing and integration of KX134 Accelerometer
- Assisted with test stand assembly for 1.6 kN Ethanol/LOX engine

### **Autonomous Systems Intern, Rain Industries (Jun 2021 – Aug 2021)**

- Developed hardware-in-the-loop bench test avionics setup for integration
- Participated in test campaign to evaluate engine instrumentation

## RECENT PERSONAL PROJECTS

# ZENITH – Thrust-Vectored Rocket



See technical video: <https://bit.ly/zenith-tvc>

Developed ARM MCU-based flight computer for real-time control of thrust vectored model rocket. Includes 10-DOF IMU (gyro, accel, mag, baro) and GPS for localization, packet LoRa radio for telemetry, onboard flash and SD card for data logging. Carefully optimized BOM and board layout for launch forces.

**Zenith MKII (in progress) selected for competitive ProjX funding by MIT**

### Electric Skateboard



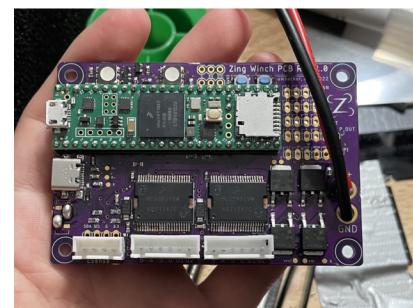
Custom artwork, PCB control electronics (right)

### Manufacturing



Experienced machinist, manual and 3/4 axis CNC

### PCB Development



Tightly integrated winch control PCB, including motor controllers, power supplies and monitoring

### 2020: COVID-19 Mask Production

3-D printed and delivered over 500 PPE mask parts to local hospital (Kaiser) in COVID-19 hotspot (Santa Clara); employed system that monitors print remotely and automatically pauses print if issue arises

## COMMUNITY SERVICE

## SKILLS



Programming in C, Java, JavaScript, Python, Shell



Mechanical Design using NX, SolidWorks + Simulation



Full-stack web design, HTML/JS/CSS + Node.js



Experience with design and BOM selection for advanced PCBs in EAGLE/Altium