

# AARON BECKER

(650) 533-3585 | ambecker@mit.edu

Bay Area - Burlingame, CA & Cambridge, MA



[github.com/aaroexxt](https://github.com/aaroexxt)



[ambecker.com](http://ambecker.com)



[linkedin.com/in/aaron-m-becker](https://linkedin.com/in/aaron-m-becker)

Undergraduate at MIT with a passion for electromechanical engineering and programming; excited to tackle new challenges in innovative spaces including the 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 4.7/5.0**

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

Thermal-Fluids Engineering I & II, Design and Manufacturing I & II, Algorithms,

Computation Structures, Discrete Math, Numerical Computation, Meas. & Instr.

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

## **Starship Mechanisms Intern, SpaceX (May 2024 – August 2024)**

- Responsible & Build Engineer for flight hardware in propulsion system of latest Starship vehicle. Interfaced with shop personnel, system & downstream owners
- Developed internal tool to help predict material behavior during part forming
- Advanced, automated mechatronic tooling developed to improve production

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

- Developed 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 – May 2024)**

- 2023/24: Elected Powertrain Lead, leading team of 15+ people & vehicle parts
- 2022/23: Responsible for manufacturing + assem. of 4-wheel-drive gearbox
- 2021/22: Responsible for design + static and dynamic analysis of braking system

## **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 design requirements

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

- Embedded firmware: testing and integration of high-G KX134 Accelerometer



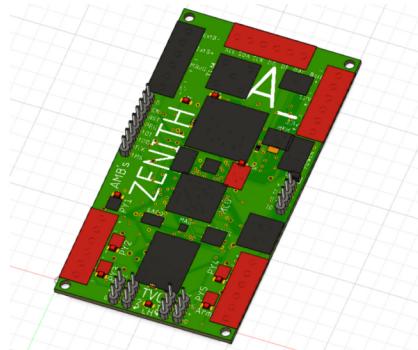
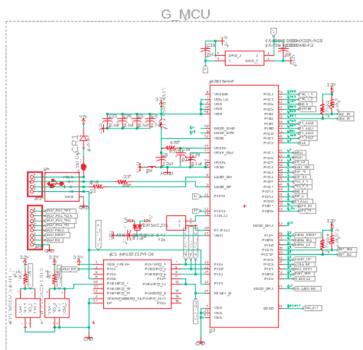
## **ABOUT**

## **EDUCATION**

## **EMPLOYMENT & EXPERIENCE**

## 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



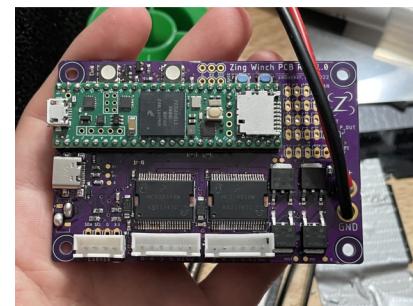
Custom artwork, PCB control electronics (right)  
6kW < motors

### 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

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