



AARON BECKER

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ABOUT

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

Massachusetts Institute of Technology, Class of 2025

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

Expected Graduation: 2025

Relevant Coursework: Fundamentals of Programming, Physics I

Additional MechE Skills: CAD (Solidworks, Siemens NX), CAM (F360), 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

Burlingame High School, Class of 2021

Unweighted GPA 4.0 / Weighted GPA 4.21. Valedictorian

Mechatronics Engineering Intern, Rain Industries (May 2022 - Present)

- Design and fabrication of high-accuracy test setup for vehicle
- Responsible for tight software and electronics integration on projects to support vehicle testing activities and test site

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 to meet project requirements for reliability, reuse, and ease of operation

Mechanical Engineering, MIT Formula SAE Team (Oct 2021 - Present)

- Responsible for design + static and dynamic analysis of braking system
- Matlab code + hand calculations to determine optimal system geometry
- Assisted with assembly and testing of epicyclic gearbox

Avionics and Liquid Propulsion, MIT Rocket Team (Sep 2021 - Jan 2022)

- Developed embedded firmware for integrated rocket computer
- Sensor testing and integration: KX134 High-G Accelerometer
- Assisted with test stand assembly for 1.6 kN Ethanol/LOX engine

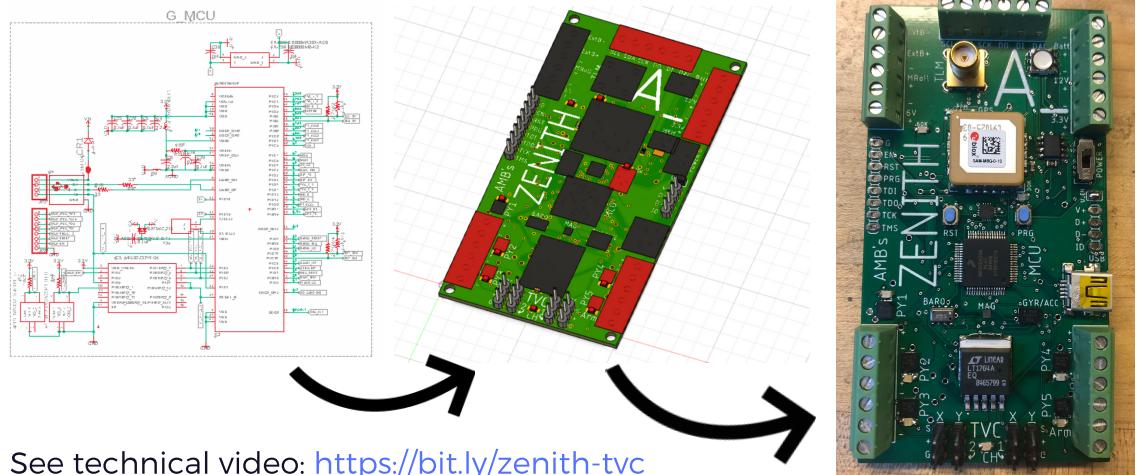
Autonomous Systems Intern, Rain Industries (Jun 2021 - Aug 2021)

- Developed hardware-in-the-loop bench test avionics setup
- Assisted with integration of actuators, power system, and sensors
- Participated in test campaign to evaluate engine instrumentation

EMPLOYMENT & EXPERIENCE

RECENT PERSONAL PROJECTS

ZENITH - Thrust-Vectored Rocket



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

Developed ARM M0-based flight computer for real-time control of thrust vectored model rocket. Includes 10dof 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.

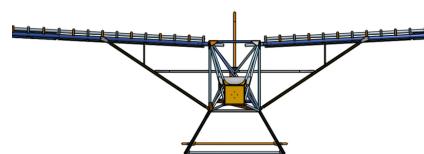
ZenithMKII (in progress) selected for competitive ProjX funding by MIT

Electric Skateboard



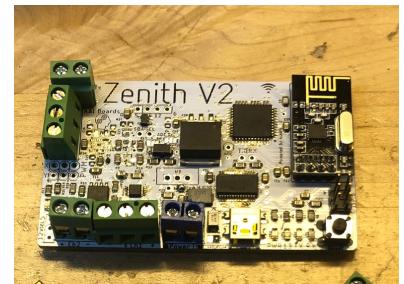
Custom artwork, PCB control electronics (right)

Flight Club



FAR Part 103-legal ultralight plane designed by students
flightclub aerospace.com

PCB Development



Atmega-1284P based, 2.4GHz radio, PWM and MOSFET switched I/O

COMMUNITY SERVICE

SKILLS



Programming in C, Java, Javascript, Python, Shell



Mechanical Design using Solidworks + Simulation



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



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

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

