

DIMITRY BOREYKO
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Aerospace Engineering (Honors) | Mechanical Systems • UAVs • Rocketry

Education

The University of Alabama - Tuscaloosa, AL
Bachelor of Science in Aerospace Engineering
STEM Path to MBA
Honors College

Expected May 2030

Hokkaido International School - Sapporo, Japan
High School Diploma

June 2025

Experience

Window & Solar Cleaner, Entrepreneurial Venture, Santa Rosa, CA

Jul 2023 - Jun 2024

- Made a net profit of ~\$2,500 by launching and operating a window/solar cleaning venture during peak summer demand

Mechanic & Outdoor Service, CourseCo, Santa Rosa, CA

Dec 2023 - May 2024

- Trained 3 new hires while maintaining equipment uptime across 18-hole course
- Diagnosed and repaired gas and electric motors, restoring operational availability for course equipment

Busser, Host, Dishwasher, Palooza Brewery and Gastropub, Kenwood, CA

Apr 2023 - Apr 2024

- Trained new staff and enforced health/safety protocols, reducing service errors during peak hours
- Sustained service throughput during peak hours while coordinating with front- and back-of-house staff

Skills

- Fusion 360 — advanced assemblies, mechanisms (5 yrs)
- 3D Printing (5 yrs) – troubleshooting, calibration, and hardware upgrades
- Programming: Python, C++/Arduino
- Soldering, basic PCB layout, circuit diagrams, ESC & brushless motor construction
- Languages: English (native), Russian (native), Spanish (conversational), Japanese (basic)

Projects

- Deployable Airbrake Mechanism (2025) - Designing and prototyping a servo-driven airbrake system for student-rocketry applications; using Fusion 360 and 3D printing to refine geometry, reliability, and servo-linkage mechanics. Currently testing actuation timing and drag response under simulated flight loads.
- Autonomous Human-Tracking Quadcopter System (2026) - Designing a modular autonomous UAV integrating a Raspberry Pi 5 with AI-accelerated vision, LiDAR sensing, a servo-driven gimbal, and Cube Orange+ flight control. Implemented a staged perception-to-control pipeline including human detection, error-vector computation, and closed-loop gimbal control, with MAVLink-based integration to PX4/ArduPilot enabling GPS-guided autonomous following.
- 5-Inch FPV Freestyle Drone (2025) - Built quadcopter from scratch, integrating ESCs, brushless motors, and custom frame; strengthened expertise in aerodynamics, control systems, and soldering. Estimated 12min max flight time, reached ~1.3 miles in range at max test
- Variable Power Supply Bench (2025) - Built a 48V/10A supply unit from an AC converter and a digital variable step down converter; integrated soldering, wiring, and circuit safety features Turned what would cost me over \$150 into a learning experience and for under half the price
- DIY Rocket Engineering (2023) - Independently designed, constructed, and launched a functioning rocket using home tools; applied propulsion and aerodynamics principles to achieve stable flight
- Engineering Portfolio Website (2026) - Designed and built a personal engineering portfolio from concept through Figma and front-end implementation. Focused on system-driven layout, interactive technical storytelling, and iterative refinement using AI-assisted code cleanup and optimization.
- Custom Airsoft Accessories Business (2022-2024) - Designed and sold airsoft-compatible launchers and BB accessories using Fusion 360; managed sales and customer feedback. Sold over 25 items, was my first step into business management as a basic production line

Campus Involvement

Member, American Institute of Aeronautics and Astronautics, Tuscaloosa, AL

Sep 2025 - Present

Airbrakes Subteam – Mechanical Systems, Alabama Rocketry Association (IREC), Tuscaloosa, AL

Sep 2025 - Present

- Designed deployable airbrake mechanisms using Fusion 360; focused on linkage geometry, servo torque margins, and material tolerances
- Prototyped and tested 3D-printed components; evaluated actuation timing and reliability under launch conditions
- Contributed Python simulations for thrust curve integration and apogee prediction

Leadership & Volunteering

Public Speaker/ Youth Mentor, Various Schools, USA, Japan

Nov 2023 - Present

- Delivered 10+ talks across the U.S. and Japan on discipline and academic turnaround

Volunteer, Council on Aging, Santa Rosa, CA

Aug 2021 - Jun 2024

- Contributed 100+ hours processing/packaging food for 5,000+ elder homes within the county, ensuring reliable supply distribution