

Avery Clowes

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Education

Olin College of Engineering

December 2024

Bachelor of Science in Mechanical Engineering

- Courses: Intro Electronics (TA), FEA (TA), Integrated Systems (TA), Lin. Algebra, Multi. Calculus, Solid Mechanics, Thermodynamics

Experience

NASA Massachusetts Space Grant

Summer 2024

Summer Research Grantee: Hall Effect Thrusters for Electric Propulsion

- Awarded grant to fund projects optimizing cost and performance of electric space propulsion systems.
- Reduced Hall thruster BOM cost 75% and increased performance metric 23% in COMSOL.

SpaceX

Spring 2023

Starlink Mechanical Engineering Intern

- Collaborated with engineers and PhDs to optimize and mass manufacture traveling wave tube amplifiers.
- Performed root cause analysis to increase part yield and drive vendor manufacturing requirements.
- Deployed tooling for part measurement, subsystem assembly, and transfer to subsequent workstations.
- Built lab solutions to increase device performance.

Physical Sciences Inc.

Summer 2021 – Spring 2022

Tactical Systems Intern

- Implemented electrical and mechanical solutions for early-stage research at physical chemistry lab.
- Assembled, maintained, and operated vacuum facilities.
- Built data acquisition systems and PCBs for characterization of thin film devices and semiconductors.

Projects & Other Experiences

Olin Plasma Engineering Lab

Fall 2021- Summer 2024

Project Manager, Mechanical Lead

- Led design, manufacture, and test of 600W Ar/Kr HET, instrumentation, and test facility.
- Facilitated design of magnetically shielded HET and development of custom magnetic field measurement system.
- Integrated laser diagnostics for performance measurement and ran test campaign at university test facility.
- Managed team of 22 to raise funds, execute on ambitious project timelines, and host design reviews.

Formula SAE Electric

Fall 2020- Fall 2022

Senior Mechanical Engineer, Core Leadership

Skills & Awards

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- Skills: Solidworks, NX, GD&T, COMSOL, Matlab/Simulink, Adobe Suite, Spanish, Italian
 - Hardware testing: Oscilloscope, Signal generator, DC load, SMU, VNA
 - Selected Awards:
 - U.S. Patent 18,802,838, Hall-Effect Thruster System with Applied Counter-Torque, pub.12/05/2024.
 - NASA JPL Minor Planet Designation: “31655 Averyclowes”
 - Interests: Hiking and Travel, Soccer, Squash, Sailing, Graphic Design