

# Elijah Cobb Hinton

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## Education

Virginia Tech | Blacksburg, VA

Expected Graduation May 2026

Bachelor of Science in Aerospace Engineering, GPA 3.47

## Projects

Amphibious Seaplane Senior Design Project | Blacksburg, VA

August 2025 - Present

- Leading structural design for an amphibious regional seaplane, ensuring compliance with 14 CFR Part 23 and marine operation requirements.
- Overseeing material selection and layout to balance corrosion resistance, weight efficiency, and strength, while integrating with aerodynamic and propulsion teams.

Computational Materials Research under Seidel Research Group | Blacksburg, VA

September 2025 - Present

- Modeling thermal-electrical-mechanical responses of energetic materials using peridynamics codes.

Orbital Launch Vehicle Team | Blacksburg, VA

September 2024 - Present

### Structures Subteam

- Manufactured fiberglass body tubes using X-winder, reducing mandrel removal time to 10 minutes through an improved mold release process.
- Conducted compression testing on 5+ body tube iterations, generating stress-strain data and material properties for FEA validation.
- Tested dual-deployment recovery system achieving 100% success across 2 flights with upgraded 2100lb shock cord.

NASA RASC-AL Competition | Blacksburg, VA

August 2024 - December 2024

- Led team development of lunar ISRU infrastructure concept for NASA's 2025 RASC-AL Competition, focusing on regolith processing technologies under Boeing engineer mentorship

GobbleBot (Interdisciplinary Program) | Blacksburg, VA

January 2022 - May 2025

### Project Management & CAD Team

- Designed and 3D printed 100+ interlocking tread components using SOLIDWORKS for an autonomous delivery robot locomotion system.
- Managed an interdisciplinary team, coordinating timelines and resolving conflicts between engineering disciplines while securing funding from multiple organizations.

NASA Proposal Writing and Evaluation Experience | Tempe, AZ (Remote)

May - August 2023

- Developed and coordinated team delivery of modular hexagonal interlocking blocks for sustainable non-terrestrial habitation, achieving 467% superior radiation shielding performance over current inflatable habitat technologies.
- Submitted a New Technology Report to NASA, while refining proposal writing skills through peer evaluation.

## Experiences

Frith First Year Makerspace | Blacksburg, VA

August 2023 - Present

### Undergraduate Lab Assistant

- Train and certify freshman engineers on CNC, 3D printing, and laser cutting equipment, ensuring safe and effective fabrication.
- Support engineering design projects by guiding prototyping and structural testing processes.

Virginia Living Museum | Newport News, VA

Summer 2023 & 2024

### Assistant Astronomy Educator / Astronomy Department

- Educated 200+ participants annually on space science and astronomy concepts through planetarium shows and STEM summer camps.

Center for the Enhancement of Engineering Diversity | Blacksburg, VA

August 2023 - 2024

### Participant, Mentor, Upperclassman Leader / Galileo

- Mentored 11 freshmen in the Galileo program, hosting weekly meetings to ensure a smooth first-year experience.

## Skills

Technical: MATLAB, Mathematica, Fusion 360, SOLIDWORKS, Abaqus, L1 rocket certification, LaTeX, 3D Printing

Professional: Proposal writing, Gantt charts, presentations, interpersonal skills, leadership, conflict management

## Relevant Coursework

Mechanics of Composite Materials, Intro to Finite Elements, Energy Methods for Structures, Air Vehicle Dynamics, System Dynamics & Controls, Aerospace Structures, Thin-Walled Structures