Hugh E. Young III

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EDUCATION

Virginia Polytechnic Institute, Blacksburg, VA — Spring 2026
Bachelor's degree
Major: Aerospace Engineering
Minor: Physics
Relevant Coursework: Statics & Structures, Computational Methods, Electronics for Aerospace and Ocean Engineers, Aerospace Structures, Introduction to Astrophysics, Introduction to Restricted Research, Special Topics in Space Engineering: Satellite Design-Build-Fly Laboratory, Astromechanics, Principles of Project Design & Management, Propellers and Turbines, Space Vehicle Design

John Tyler Community College, Midlothian, VA — August 2021
Associate of Engineering, Magna Cum Laude

AFS Cultural Exchange Program, Czech Republic — August 2018-June 2019
AFS Cultural Explorer Scholarship Award Recipient

TECHNICAL SKILLS

Programming: C++ , JavaScript, Python, ros2
Software: Autodesk Inventor, MATLAB, GAUSS, Excel, Wolfram Mathematica, ABAQUS, Overleaf, SolidWorks, KiCAD

RESEARCH AND PROJECTS

Flight Simulation Theory and Pedagogical Application: September 2023-December 2023

- Explored the theory and pedagogical applications of a flight simulator that used commercial hardware and open-source software
- Studied the underlying physics models of aerodynamics and flight mechanics and developed an understanding of how to implement these models in the simulator software
- Explored how we might deploy a simulator in several Aerospace Engineering courses
- Wrote a final report in the form of an AIAA paper that was submitted to a future AIAA conference

Advancing Digital Twins for Jet Engines Through Mathematical and Computational Innovation: September 2024-May 2025
Undergraduate Assistant

- Assisted in CAD/Design tasks meant to aid in laboratory activities

Printed Circuit Magnetorquer for a PocketQube Satellite: January 2025-May 2025

- Assisted in laboratory activities and in the planning and design phase of the experiment
- Designed the electrical system for a PocketQube satellite

Project Hestia — Lunar Landing Pad Construction System
Senior Design Project, VT LUNA: Fall 2025 – Spring 2026

- Developed a proof-of-concept lunar landing pad construction system using a Stationary Tile Maker and semi-autonomous regolith collection rover.
- Programmed rover prototype controls, including motion-capture integration, autonomous navigation logic, and Arduino serial communication.
- Assisted with prototype testing to evaluate regolith collection rates and system performance.
- Conducted structural analysis of the Stationary Tile Maker to assess launch and landing environment effects.
- Earned **5th overall out of 34 teams**, **3rd in Prototype**, **3rd in Lunar Operations**, in the C3 COSMIC competition
- Earned **2nd overall in a Space Track poster expo**.

Using Mathematical Models to Predict How Urban Air Mobility Will Reshape Future Cities:

- Collected, organized, and refined large amounts of data
- Used GAUSS to process data into mathematical models meant to simulate real-life behavior
- Wrote a paper that was submitted to a future TRB conference

WORK EXPERIENCE

John Tyler Community College Academic Resource Center (ARC), Midlothian, VA September 2020-May 2021

Tutor

- Guided students through various math, science, and engineering courses including EGR 126, EGR 124, Physics I, and Calculus I and II
- Coached students on forming healthy study habits as well as good time management skills