

# Marcus Yoo

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## EDUCATION

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### Rose-Hulman Institute of Technology

Bachelors of Science, Mechanical Engineering

May 2028

Terre Haute, IN

Related Coursework: Graphical Communications, Calculus III, Java Programming, Statics I

## INTERNSHIP EXPERIENCE

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### Boeing Co.

June 2023 - August 2023

Flight Performance Engineering Intern

Huntington Beach, CA

- Conducted simulations for takeoff and landing speeds using advanced proprietary models; results directly contributed to operational manuals, ensuring accurate guidance for flight crew across more than 100 unique customer configurations
- Developed python programs to batch process terabytes of fluid simulation data, boosting operational efficiency, cutting down human time spent processing each simulation by 15%
- Manufactured composite and thermal protection systems test coupons for empirical property verification through X-ray photoelectron spectroscopy, contributing to spacecraft coatings development

## ADDITIONAL EXPERIENCES

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### Rose Rocketry

August 2024 - May 2025

NASA Student Launch Member

Terre Haute, IN

- Drafted and refined project proposals and technical reports, effectively communicating project objectives and progress
- Developed a mechanical fin attachment system to minimize breakage, increasing ease of rapid design iteration
- Pursuing NAR L2 Certification through design, testing, and flying a fiberglass rocket with an interchangeable payload bay

### Sage Hill Robotics (FRC Team 5835)

August 2020 - July 2024

Team Captain | August 2023 - July 2024

Newport Coast, CA

- Collaborated with teammates to rebuild and expand the FIRST robotics team from 4 members to over 40, overcoming the challenges posed by the COVID-19 pandemic, introducing over 60 Sage Hill School students to fields of engineering
- Guided team to 8/48 teams at the Orange County Regional Competition, demonstrating strategic planning and leadership
- Managed a \$19,000 budget, overseeing accounting and finance to ensure the team had the necessary resources
- Implemented project management techniques to coordinate group efforts, resulting in a cohesive and efficient team

Design Lead | August 2020 - August 2023

- Mentored group of 2-6 members, developing and enhancing the team's solution seeking workflow
- Applied creative design ethos, keeping in mind manufacturing limitations and identifying possible workarounds

### Rose-Hulman Art Curator's Office

September 2025 - June 2026

Assistant Art Curator

Terre Haute, IN

- Curated and installed exhibitions across campus spaces, enhancing the daily environment for 2,000+ students and faculty while providing recognition for emerging local artists.
- Coordinated with faculty to align art placement with community needs, cultivating a more vibrant academic culture.

### Delta Sigma Phi

February 2025 - February 2026

Historian

Terre Haute, IN

- Maintained chapter documentation and recordkeeping, ensuring preservation of chapter history and tradition
- Responsible for photoshoot, production, and maintenance of chapter composites to maintain dossier of membership

## CERTIFICATIONS & SKILLS

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- Certifications:** Cisco Level II Network Technician; Audinate Dante Level III Certification; ASA Keelboat Certification
- Adobe Products:** Illustrator; FrameMaker, Indesign; Premiere; After Effects; Photoshop; Lightroom
- Design & Simulation:** Solidworks & Catia; Autodesk Fusion 360; Satellite Tool Kit; Ansys Fluent; KiCAD; Blender
- Programming:** Java; Python; C++; Matlab

## INTERESTS & ACTIVITIES

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- Interests:** Aviation; Space; Defense & Security; Rocket Propulsion; Robotics & Automation; Prosthetics & Orthotics
- Activities:** Rose Climbing Team Manage; Boulder Wall Routesetter; Fabrication; Photography & Darkroom; Ceramics