

Jae-Hoon Smith

jaehoonsmith@icloud.com | 216-262-1570 | www.linkedin.com/in/jae-hoon-smith

Education:

Vanderbilt University | Mechanical Engineering | GPA: 3.82

May 2026

Special Achievements:

- Dean's List (x4) | Eagle Scout | Level 1 High Power Rocketry Certification (National Association of Rocketry)

Work Experience:

Engineering Intern: Swagelok (Cleveland, Ohio)

May - August 2024

- Spearheaded the design, construction, and execution of a vision system for high-pressure fluid components
 - Utilized SolidWorks (3D Modeling Software) to design assemblies and conduct motion studies
 - Fabricated parts utilizing numerous 3-D printing, laser-cutting, and machining techniques
 - Collaborated with a peer in programming optical components to consistently identify defective parts
 - Compiled and presented a business pitch to successfully obtain funding and purchase equipment
- Engineered and validated an apparatus to find the coefficient of friction of back ferrules in fluid system fittings
- Constructed, wired, and implemented 3 separate electrical boxes to control various automated processes

Engineering Intern: Biothane (Cleveland, Ohio)

May - August 2023

- Designed components and assemblies in SolidWorks to be implemented in various extrusion processes
- Fabricated components by employing machining processes, such as milling and lathing
- Led the construction of four custom-built machines that were integrated into production

Engineering Intern: Air Enterprises (Akron, Ohio)

May - August 2022

- Supported engineers at an advanced designer and manufacturer of air-handling systems
- Utilized Inventor (3-D modeling software) to model components for heating, cooling, and filtration systems
- Initiated the establishment of a 3-D library in Inventor to accelerate and streamline the overall design process

Lab Assistant: Human Fusions Institute, Case Western Reserve University

May - August 2021

- Worked with researchers to develop smart prosthetics and remote touch at the VA Medical Center
- Represented the lab at the Consumer Electronics Show, illustrating remote touch with immersive demonstrations

Projects:

Mach 2 Carbon Fiber Rocket

- Designed, built, and ran simulations for a 14 ft rocket using various construction techniques
- Launched and safely recovered the vessel while surpassing Mach 2 and 8,000 ft, validating simulated values

Impact of Ammonium Perchlorate in Rocket Fuel

- Conducted experiments exploring varying grain sizes of ammonium perchlorate and its effect on rocket fuel
- Test fired each propellant to obtain data and thrust curves for analysis
- Awarded Office of Naval Research Award, Northeastern Ohio Science and Engineering Fair

Effect of Different Rocket Fin Geometries

- Utilized CAD and laser-cutting to implement five unique fin geometries onto low-power rockets
- Conducted testing and compiled data regarding velocity and altitude
- Awarded Society of Experimental Test Pilots Excellence in Flight Sciences Award, State Science Fair

Extra-Curricular Activities

Vanderbilt Aerospace Design Laboratory Engineer - NASA Student Launch Competition

2023 - Present

- Selected to compete for Vanderbilt in NASA's Student Launch Initiative rocketry competition
- Responsible for modeling the team's sub-scale rocket using OpenRocket, RockSim, and SolidWorks
- Spearheaded fabrication initiatives utilizing machining and different manufacturing processes

Tikkun Olam Makers, Team Co-Lead

2022 - Present

- Assist people with disabilities by prototyping and revising design solutions to address challenges in their lives

Theta Tau, Professional Engineering Fraternity, Recruitment Director

2022 - Present

- Accepted into a selective professional fraternity based on leadership ability and interpersonal skills

Vanderbilt Club Baseball, Executive Team, Treasurer, Center Fielder

2022 - Present

- Led the executive council in the establishment of an annual budget for the 2023-24 season