Jae-Hoon Smith
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Education:

Vanderbilt University | Mechanical Engineering | GPA: 3.8 May 2026

Work Experience:

Engineering Intern: Biothane, Cleveland, Ohio Summer 2023

- Designed components and assemblies in 3-D modeling software for various extrusion processes
- Fabricated components by employing machining processes, such as milling and lathing
- Spearheaded the construction of four custom-built machines that were integrated into production

International Service Team member, World Scout Jamboree, Korea August 2023

- Volunteer worker at a gathering of 45,000 Scouts from around the world
- As part of the infrastructure team, helped build international exhibitions and ensured smooth presentations
- Learned to communicate and work with colleagues representing many languages and cultures

Engineering Intern: Air Enterprises, Akron, Ohio Summer 2022

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

Lab Assistant: Human Fusions Institute, Case Western Reserve University Summer 2021

- Assisted in advancing smart prosthetics and remote touch with neural engineers from the Department of Biomedical Engineering
- Worked with researchers to design experiments to help veterans with prosthetics at the VA Medical Center
- Represented the lab at the 2023 Consumer Electronics Show in Las Vegas, illustrating remote touch technology with interactive and immersive demonstrations

School Activities

NASA Student Launch Competition Engineer

- 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

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

Theta Tau, Professional Engineering Fraternity

- Accepted into a selective professional fraternity during freshman year

Vanderbilt Club Baseball, Executive Team, Treasurer, Center Fielder

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

Independent Projects:

Constructing and Flying a 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, validating simulated flight characteristics

Testing Varying Grain Sizes of Ammonium Perchlorate in Rocket Fuel

- Conducted experiments regarding 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

The Effect of Different Fin Geometries on a Rocket

- 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

Special Achievements:

- Dean's List | Eagle Scout | Level 1 High Power Rocketry Certification (National Association of Rocketry)
- National Merit Commended Scholar | AP Scholar with Honors | Varsity Baseball Captain