

# Rais Nurhidajat

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## EDUCATION

### Vanderbilt University

Nashville, TN

*Bachelor of Engineering in Mechanical Engineering*

Aug 2020 – May 2025 (Expected)

- 3.79 GPA (Dean's List), Awarded the Society of American Military Engineers Scholarship
  - Relevant Coursework: Aerospace Propulsion, Computational Fluid Dynamics, Robotics, Mechatronics, Thermodynamics, Heat Transfer, Machine Laboratory (Teaching Assistant)
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## WORK EXPERIENCE

### Vanderbilt Aerospace Design Lab

Nashville, TN

*Vanderbilt School of Engineering Summer Research Intern*

May – Aug 2024

- Designed, analyzed, and tested the performance of an auto-rotating lander
- Predicted and verified lander performance using blade element momentum theory modeling in MATLAB, Computational Fluid Dynamics, and ground stand testing
- Successfully deployed and recovered a lander from an altitude of 400' above ground

### Adelphi Laboratory Center (Army Research Laboratory)

Adelphi, MD

*Research Intern*

Jul – Aug 2023

- Conducted research into materials for construction of miniature radio-isotope photovoltaic power source through the use of SRIM (Stopping and Range of Ions in Matter) modelling
- Designed and fabricated 3D printed hardware for device calibration and photovoltaic cells for testing in Pelletron ion accelerator

### Marshall Space Flight Center (NASA)

Huntsville, AL

*Engineering Intern*

Jun – Aug 2022

- Designed, programmed, and fabricated prototype hardware for International Space Station bioculture experiment to study microbe growth in a microgravity environment
- Constructed motorized camera track assembly and culture tube heating apparatus, both controlled via Arduino and Raspberry Pi

### Vanderbilt Student Centers

Nashville, TN

*Production Services Associate (Audio/Visual Technician)*

Sep 2021 – May 2024

- Set up and managed audio and visual equipment during university performances and events
  - Supported clients through last minute adjustments and technology troubleshooting
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## EXTRACURRICULARS

### Vanderbilt Aerospace Design Lab – Rocket Team

May 2024 – Present

*Vice President/Payload Lead*

May 2024 – Present

- Oversee design and fabrication of rocket launched payload for 2024-25 NASA Student Launch Initiative that consists of a parachute arrested flight capsule that transmits flight and landing data to a ground station via radio frequency
- Conduct structural analysis via finite element analysis and physical testing to ensure payload and vehicle components withstand the rigors of rocket flight
- Ensure seamless integration between the payload and the launch vehicle

### Vanderbilt Robotics

Aug 2020 – Aug 2024

*President/Mechanical Lead*

May 2022 – Aug 2024

- Organized and managed project timeline, deadlines, and logistics
- Supervised and refined all mechanical design work conducted by sub teams
- Led team to place 5<sup>th</sup> at 2024 NASA Lunabotics Competition Finals; Won 2<sup>nd</sup> place Autonomy Award

### Vanderbilt Army ROTC

Aug 2020 – Present

*Cadet Battalion Operations Officer*

May 2023 – Present

- Oversee planning and execution of training events across multiple universities throughout Tennessee
  - Commissioning into Army National Guard as Aviation Officer
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## CERTIFICATIONS, SKILLS, & INTERESTS

- **Certifications:** Certified Solidworks Associate (CSWA) in Mechanical Design
- **Technical Skills:** Solidworks, OnShape, Raspberry Pi, Arduino, LabView, Mill and Lathe Machining, CNC Machining, 3D Printing, Finite Element Analysis, Easy EDA, Microsoft Office, Audio and Visual Equipment
- **Soft Skills:** Communication, Time Management, Teamwork, Negotiation, Public Speaking, Customer Service
- **Interests:** Aerospace Structure and Propulsion, Robotics, Mechanical Design, Autonomy, Control Systems