

Joshua David Eckels

5500 Wabash Ave CM926 | Terre Haute, IN 47803 | (812) 453-1974
eckelsjd@rose-hulman.edu | <https://github.com/eckelsjd/portfolio>

Objective: To obtain an internship position in aerospace engineering

Education: **B.S. Mechanical Engineering** **GPA 3.98/4.0** 2017-2021
Rose-Hulman Institute of Technology Terre Haute, IN 47803

- Minors: Aerospace engineering, Thermal Fluids, Computer Science
- Coursework: Propulsion, Thermodynamics, Materials, Aerodynamics, Controls, Fluids
Computational Fluid Dynamics, Numerical Simulation, Data Structures

Skills: *Software*

- Siemens STAR-CCM+ | Experience in 2D and 3D flow visualization and analysis
- MATLAB | Proficient in numerical analysis and system modeling
- BS SOLIDWORKS | Intermediate CAD and stress/motion analysis experience
- OpenCV, ROS | Experience in computer vision and conv neural networks
- Languages | Proficient in Java, Python, C, Linux and shell scripting

Practical and Lab

- Wind tunnel labs | Experience with airfoil wind tunnel testing and measurement
- Engine cycle analysis | Familiarity with turbojet engine cycle analysis and carpet plots
- Basic shop skills | Experience with mills, lathes, welding, CNC, etc. fabrication

Experience: **REU Assistive Robotics Lab** | Undergraduate Researcher June-Aug 2019
Virginia Tech, Blacksburg, VA 24061

- Investigated and classified navigation constraints and barriers for autonomous vehicles
- Integrated with existing SLAM and convolutional neural networks for robotic navigation
- Utilized Robotic Operating System (ROS) and computer vision software to identify and localize barriers in a 3D point cloud global mapping framework

CS Educational Research | Undergraduate Researcher 2019-ongoing
Rose-Hulman, Terre Haute, IN 47803

- Identifying misunderstandings of computer science students when reasoning about code
- Analyzing data patterns to develop an online reasoning tutor to aid in student code tracing
- Automating the collection of data from students' problem-solving approaches

Metronet Inc. | Design Intern June-Aug 2018
3701 Communications Way, Evansville, IN 47715

- Revised and performed quality control on fiber network designs and construction drawings
- Updated and maintained company as-built fiber designs utilizing GIS software
- Generated bills of materials and compiled and documented procedure manuals

Activities & Honors: *Involvement*

- Formula SAE | Aero team member, simulating new under-tray design in CFD
- Choir | President and organization lead in acapella and chamber choirs
- Tau Beta Pi | Engineering honor society and community involvement

Honors

- Barry Goldwater research scholarship nomination 2019
- Heminway Bronze medal for top of undergraduate class
- Rose-Hulman Dean's List 7/7 quarters
