

Education

Carnegie Mellon University, Master of Science in Mechanical Engineering expected spring 2026.
GPA 3.96.

Rose Hulman Institute of Technology, Bachelor of Science in Mechanical Engineering, Spring 2024.
GPA 3.60.

SKILLS

SLAM, Optimization, Controls, Nvidia Isaac, GTSAM, ROS, C++, Python, OpenCV, PyTorch, Deep Learning.

RESEARCH EXPERIENCE

CERLAB, Pittsburgh PA— *Research Assistant- Summer 2025*

- Researching methods to improve object-centric robot perception and mapping.
- Development of novel category level object models for SLAM

Deka Research and Development, Terre Haute IN— *Software intern- School year 23/24*

- Performed on campus research in partnership with Deka Research and Development in NH.
- Developed, implemented, and debugged robot perception techniques.
- Performed Robot development using ROS.

WORK EXPERIENCE

Surgical Vision Systems, Baltimore MD — *Robotics intern- Summer 2024*

- Developed a system to automate sterile processing of surgical instruments
- Worked integrating an open-source robotic arm into the system using ROS, MOVEit, depth cameras, Segment Anything Model, and Grounding DINO.
- Continued development on ROS drivers, prototyped new gripper designs, improved control logic.

Allison Transmission, Indianapolis IN— *Product engineering intern- Summer 2023*

- Redesigned 3040mx cross drive transmission parts for ease of manufacturing.
- Worked on a cooperative research and development agreement with the US military working to improve efficiency of heavy tactical vehicles by as much as 10%.

Reliance Robotics, NW Washington DC — *Mechanical/Electrical Prototyping and Software- Summer 2022- spring 2023*

- Performed research & development of a robot to support farm automation requirements, using RTK GPS, cameras, and inertial measurement units.
- Implemented sensor fusion algorithms to return absolute orientation robustly.
- Wrote python and C++ code that allows robots to complete tasks including following farm staff, following GPS coordinate paths, recognizing human gestures.

VOLUNTEER & LEADERSHIP EXPERIENCE

RHIT Human Powered Vehicles Team- Design lead. ASME Human powered vehicle competition results- 2nd place overall, 1st place in the drag event, 2nd place in the design event.

Boy Scouts of America - Eagle Scout. Raised \$4,400, designed and built an outdoor classroom.

Course Assistant Computer Vision for Engineers- Run office hours, grade, proctor quizzes.