

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.