

Katherine Mackowiak

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kviim.github.io/projects

Education

OLIN COLLEGE OF ENGINEERING

BS in Engineering: Concentration in Computing, 2023 - GPA: 3.94

Recipient of a 4-year, 50% Olin Merit Scholarship

Experience

STUDENT ANALYST | SOUTHWEST RESEARCH INSTITUTE | JUN 2021 – AUG 2021

- Robotics and Manufacturing Technology Department - designs solutions for systems requiring more complexity than standard industrial robots provide.
 - Worked on integrating human motion capture system with collision model of real time path-planning using C++ and ROS-Industrial to enable proactive collision avoidance
 - Created debugging aid for reinforcement learning motion planning system in QT Creator
 - Worked on prototyping system for manufacturing traffic dividers
 - Implemented compliant gripper design
 - Tested various machine and robot orientations to increase efficiency and accuracy during assembly

SOFTWARE ENGINEERING INTERN | VIEWPOINT SYSTEMS | JUN 2020 – DEC 2020

- Viewpoint designs automated test systems for production testing and product validation
 - Implemented user interface for tracking parts throughout a large-scale manufacturing process
 - Developed front and backend website using Blazor and C#

PROGRAMMING LEAD | FIRST ROBOTICS COMPETITION | SEPT 2015 – JUN 2019

- Wrote vision tracking and autonomous driving code using C++
- Designed elevator system within robot with Autodesk Inventor
- Wired robot and routed pneumatics

ENGINEERING INTERN | ANKOM TECHNOLOGY | JUL 2019 – AUG 2019

- ANKOM develops and manufactures analytical instrumentation and support products for use in laboratory analysis of food and feed products. Engineering Intern
 - Wrote python code to interpret data from prototypes
 - Rebuilt damaged packaging machine
 - Manufactured parts using CNC mill

Skills & Abilities

Software: C++, Python, C# - Blazor, Matlab, OpenCV, ROS and ROS-Industrial, REST API, HTML

Other: Excel, Autodesk Inventor, Autodesk Fusion 360 Experience, Adobe Suite, Ubuntu, Git