

Education:

Masters of Science In Robotics

GPA: 3.5/4

Northwestern University, Evanston IL

Graduation December, 2018

Relevant classes: Computer vision, Artificial intelligence, Machine learning, Robotic Manipulation

Bachelors of Science in Electrical Engineering

Milwaukee School of Engineering, Milwaukee WI

Graduated May 27, 2017

Relevant classes: Analogue/Digital Control systems, Embedded systems

Work experience:

TE Connectivity, Middletown PA

June 2017-August 2017

Automation Intern

- Designed a program for a Sick Flexi Soft Programmable logic controller (PLC) to improve machine safety.
- Assisted in part selection, and cost analysis of the new design of the Robotic Adaptable automation platform.
- Collaborated with senior engineers to establish Modbus TCP/IP communications between an Omron PLC and the vision system to increase the efficiency of the Underground Residential Distribution platform.

Nextera Energy, Seabrook NH

May 2015-August 2015

Instrumentations and Controls Intern

- Utilized critical thinking skills to find a solution for communication issues inside of the diesel generator building.
 - Independently updated calculations for critical and non-critical infrastructure.
 - Worked with senior engineers to reclassify the sanitary lift system as a commercial structure.
 - Communicated with different departments and with company representatives to develop a solution for updating the Radio communications system.
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Projects

Baxter the Barista

My team utilized computer vision and robotic manipulation in conjunction with the Robot operating system (ROS) to have a Baxter Research robot make a cup of coffee.

- co-developed a Robotic manipulation Software to move Baxter's arm to grab the Kcup and mug and place them inside and take them out of the coffeemaker.
- Using ROS developed a method to determine the position of the coffeemaker, Kcup, and mug in 3d space so Baxter could move to grab each object.

Senior design

My team designed a mounted camera with 3 axis of movement, which streams to and is controlled by a VR headset.

- Implemented a control system which allows the camera to move based on the movements of a VR headset and will stabilize the system and reduce unintended camera movements from vibrations.
- Designed an image processing system that feeds video from the camera to be viewed on the VR headset via a wireless system.

Sumobot competition

Designed and tested an autonomous robot to compete in a robotic sumo competition.

- Displayed divergent thinking in producing an effective design that complied with all regulations.
 - Developed a finite state machine that receives sensory data and determines whether the robot will attack, dodge, or move away from the edge.
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Technological proficiencies

- ROS, C, C++, Python, CSS, HTML, Java, VHDL, MATLAB
- Git, Linux, Gazebo, Rviz, OpenCV, Multisim, OrCAD
- PLC platforms (Omron, Sick, Pilz)
- Circuit design with microcontrollers(16bit, 8bit, 32bit ARM), sensors, and Motors