Lauren Hutson ***Phone: 773-576-5666***
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Education:

Masters of Science In Robotics GPA: 3.3/4.0
Northwestern University, Evanston IL Graduation September, 2018
Relevant classes: Computer Vision, Artificial Intelligence, Machine Learning, Robotic Manipulation, Design of Algorithms, Human Computer Interaction

Bachelors of Science in Electrical Engineering
Milwaukee School of Engineering, Milwaukee WI Graduated May, 2017
Relevant classes: Analogue/Digital Control Systems, Embedded Systems

Skills

- Robotic Operating System (ROS), C, C++, Python, Java, VHDL, MATLAB, CSS, HTML
- Git, Linux, Gazebo, Rviz, OpenCV, Multisim, OrCAD, Tenserflow
- Circuit design with micro controllers(16bit, 8bit, 32bit ARM), sensors, Motors

Projects

Portfolio: laurenhut.github.io/Portfolio

Super Mario AI
Developing a Deep Q learning algorithm that will let a computer to play Super Mario World on an emulator.

- Designing a Convolutional Neural Network using Tenserflow that accepts raw gameplay frames as input and returns the available button inputs with their current Q values.
- Utilizing the Q-learning algorithm to select button inputs that will be used to play the game in real time using python.

Baxter the Barista
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 out of the coffeemaker in python.
- 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: VR Controlled Camera System
Designed a mounted camera with 3 axis of movement, which streams to and is controlled by a VR headset.

- Implemented a control system in C 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 using C.

- 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.

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.