LUXI HUANG

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EDUCATION

Northwestern University (NU), Evanston,IL **Expected Dec.2020**
Master of Robotics
University of Maryland (UMD), College Park, MD **Dec.2018**
Bachelor of Science Mechanical Engineering; Mathematics

SKILLS

Robot Skills: ROS, LINUX, Git, Computer Vision, Machine Learning, Motion Planing, Deep Learning, Sensor Fusion, Rivz, Microcontroller
Programming Languagege: C, C++, Python, MATLAB
Mechanical Engineering: SolidWorks, Anysis, EES, 3D Printing, CNC, Laser Cutter
Others: SAS, Overleaf,Excel, PowerPoint, Overleaf

SELECTED PROJECTS

Baxter Robot Assemble Lego blocks Pyramids - NU **Step. 2019 - Dec. 2019**

- Programmed 7-DOF arm trajectory waypoint in ROS with Python to accomplish motion planning using inverse kinematics.
- Processed images from Baxter's arm and head camera with OpenCV to identify blocks and world.
- Wrote a translator converting image pixel to physical coordinates with camera calibration.

A Start Motion Planing - NU **Sept. 2019 - Dec.2019**

- Applied A-start search algorithm on path planing to avoid obstacles
- Designed inverse kinematics robot control to drive robot along the path
- Wrote a design report to faculty

Bio-inspired Robotics Project - UMD **Jan. 2018 -May 2018**

- Collaborated with a group of 3 students to design, build, and test four legs newt bpired robotics within 4 months
- Programmed MATLAB code to control robotic navigation
- Created full technical drawing of robot components on Solidworks
- Designed and constructed circuitry for robotics

Internet Communicating Vehicles - UMD **Sept.2018 - Dec.2018**

- Designed, build, and assembly vehicles robot to communicate and motion control with internet or joysticks.
- Programmed in Python on Raspberry Pi to Board to control actuators and robot motion.
- Generated dynamic web page for Pi communication and data transferring.

DeWALT DCF815 Impact Driver Project - UMD **Sept.2017- Dec.2017**

- Collaborated with a group of 5 students to test, analyze, and write five reports of the DeWALT DCF815 impact driver among the dissection and benchmarking, speed, power, thermal, manufacturing aspect
- Designed a brushless motor to improve the performance of the DeWALT DCF815 impact driver
- Analyzed the material selection, and mechanical design of components for the DeWALT DCF815 impact driver
- Applied mathematical and statistical methods to interpret data and generate results from the experiment

WORK EXPERIENCE:

Research Assistant, The Sensor and Actuator Lab - UMD **Dec. 2017 - Dec.2018**

- Designed metamaterial sonar to strongly magnified acoustic signals
- Designed and built a wheel robotic to tracking moved barriers by sending and receiving acoustic signals through metamaterial sonar
- Created and printed 3-D components of robotic and metamaterial sonar.
- Code on Launch-F28379D DSP board in C to tracking barriers though sending and receiving acoustic signals

MATLAB tutor - UMD **Feb. 2016 – May 2016**

- Tutored undergraduate students in MATLAB for calculus, differential equation, and linear algebra courses