LUXI HUANG

lucy96akane@gmail.com (224)999-3312 https://luxi-huang.github.io/portfolio/
https://www.linkedin.com/in/luxi-huang-765076137 Chicago, IL

SUMMARY

Seeking for 2020 Summer Intern position in robotics area.
Master Student in Robotics Major with strong **programming** and **mathematical** skills. 5+ years of hands-on robot development experience including **motion planing**, **navigation**, **control system**, and **search algorithm**.

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

Primary Operating System: Linux
Robot Skills: ROS, Computer Vision, Machine Learning, Motion Planing, Microcontroller, Bayesian Filters, Version Control (Git), Search Algorithm
Programming Languagege: C/C++, Python, MATLAB/SimuLink
Mechanical Engineering: SolidWorks, ANSYS,CNC, Laser Cutter, FEA, UG, Design Process
Data Analysis: SAS

SELECTED PROJECTS

Robot Navigation From Scratch on Turtlebot3 - NU **Jan. 2020 - Mar. 2020**

- Developed 2D **kinematics** and navigation library in **C++** for differential drive robots
- Wrote circular feature detection algorithm for **LiDAR** scanner and implemented a landmark-based **EKF SLAM algorithm**
- Develop system on **Docker** and Implement Turtlebot3 **navigation** using **ROS** in **C++** as the central platform.

ReThink Robot Build Lego - NU **Step. 2019 - Dec. 2019**

- Develop a system to **control** a Baxter (Rethink Robotics) to build Lego
- Programmed whole node on 7-DOF arm **trajectory algorithm** using **ROS MoveIt** (in **Python**) to accomplish **motion planning** and obstacle avoiding, and control the force on grippers

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

- Collaborated with a group of 3 students to design, build, and test quadrupedal **bio-inspired** newt robotics
- Analyzed gait and implement **Inverse Kinematics** to control robotic **navigation** in **MATLAB** on **Arduino**
- 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** Board to control **actuators** and robot motion.
- Generated dynamic **web page** for Pi communication and data transferring.

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 control robot **navigation** tracking barriers though sending and receiving acoustic signals with **PID** control.

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

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