Josh Shih

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EDUCATION

University of Washington Seattle

M.Sc Electrical and Computer Engineering (June 2022)
- Research Concentration : Artificial Intelligence, Robotics, Wireless Systems
- GPA : 3.56/4.00

B.Sc Electrical and Computer Engineering (June 2020)
- Program Concentration : Embedded Computing Systems

WORK EXPERIENCE

SensorSystems Lab
Prof. Joshua R. Smith
Seattle
May 2019 - Present

Graduate Research Assistant
- Implemented novel wireless communications method for autonomous vehicles using basic adaptive cruise control setup by encoding information in speed and perception with machine vision.(ROS, Python)
- Built two 1:10 autonomous robot race cars(MuSHR) to test real-life implementation of robot perception.
- Created 30min of time-synchronized dataset on race cars to prototype ML/CV solutions for perception.

Microsoft
Seattle
Jan 2020 - July 2020

Software Engineer Intern
- Team lead for a group of 5(students) on implementing a smart server mover to replace broken servers.
- Implemented path planning algorithms to navigate between broken servers and work cell.(SLAM)
- Wrote communication protocol software for communication between CAN bus/CANopen devices and generic microcontrollers/PLCs.(C++, CAN)

Cobalt Robotics
June 2019 - Jan 2020

Reserve Engineer
- Implement hardware and software training on Cobalt security robots.

Information Processing Lab
Seattle
April 2017 - June 2019

Undergraduate Research Assistant
- Worked on low-cost object detection technique for autonomous vehicles using new data fusion technique combining camera and radar. (Python)
- Projected 2D camera coordinates to 3D world coordinates by estimating camera distortion matrices using image processing.(Python)

PROJECT EXPERIENCE

MIT COVID-19 Hackathon Track Winner
April 2020

- Designed an app that focuses on providing asynchronous mental health services for healthcare and front line workers through voice memos.
- Implemented an NLP algorithm that extracts pressing topics from voice memos(Python, spaCy).

Husky Maps
Sept 2019 - Dec 2019

- A GoogleMaps-like web application with Point-of-Interest Search, path finding, and turn-by-turn navigation directions on University District, Seattle.(Java)

Low-Cost Medical Monitor
Feb 2019 - May 2019

- Built a touch screen health monitoring system that takes essential measurements of bodily functions.
- Integrated real-time capabilities including warning, acknowledgement, and communication functionalities to local area network(LAN) and bidirectional serial communication with external computers.(C++)

SKILLS

- Python, Java, C++, SystemVerilog, ARM, Git, Linux
- ROS, Pandas, Scikit-learn, PyTorch, Django, Embedded Systems, RTOS, CAN/CANopen, FPGA