

EDUCATION

Carnegie Mellon University
M.S. Electrical and Computer Engineering 2020

University of Michigan
B.S.E. Computer Engineering 2018
GPA: 3.7/4.0

COURSEWORK

Master's Coursework
Foundations of Computer Systems | Introduction to Machine Learning (Master's) | Introduction to Computer Security

Bachelor's Coursework
Autonomous Robotics Design Experience | Introduction to Machine Learning | Introduction to Operating Systems | Embedded Control Systems | Embedded System Design | Data Structures and Algorithms | Introduction to Computer Organization

EMPLOYMENT

General Motors
Software Engineer - AV Mapping & Localization

- Develop and implement mapping and localization algorithms for GM's highly advanced autonomous driving system.
- Interface with other algorithm developers, data scientists, and system architects to achieve extremely capable self-driving vehicles.
- Participate in software sprints as part as team's AGILE development process.

Warren, MI
Mar. 2019 to Aug. 2019

General Motors
Software Integration Engineer

- Integrate and test software features for GM's Co-pilot and SuperCruise active safety autonomous platforms.
- Lead troubleshooting vehicle level integration issues including hardware, software, calibration, and instrumentation.
- Verify software integration functionality using a bench and/or vehicle.

Milford, MI
July 2018 to Mar. 2019

Goldman Sachs
Software Engineering Intern

- Responsible for backend development of Java application to query financial data.
- Created RESTful API to connect Java application backend to fleet of financial data calculators to deliver to customer.
- Configured pool of direct computing hosts to allow single threaded applications to run in parallel.
- Revised and expanded team's SQL data model to provide additional functionality to fulfill user requirements.

New York City, NY
June 2017 to Aug. 2017

Ford Motor Company
Product Development Intern

- Developed an interoperability analysis matrix to provide a roadmap for future electric vehicle testing.
- Conducted root cause analysis of software issues used in Vector CANalyzer software.
- Performed vehicle level testing for DC fast charge interoperability.
- Documented Alert and Concern reports in the World Engineering Release System.

Dearborn, MI
May 2016 to Aug. 2016

PROJECTS

"Designated Sinkers": Beer Pong Thrower
Autonomous Robotics Design Project

- Robotic arm used in conjunction with an Xbox Kinect camera to play a highly successful game of beer pong.
- Implemented forward & reverse kinematics algorithms, as well as a torque regression model for a successful throw.
- RexArm robotic arm consisting of 5 Dynamixel motors and a 3D printed gripper.

2018

"Mbot": Robot Mapping and Exploration
Autonomous Robotics Design Project

- 2-wheeled robot capable of exploring and mapping an unknown environment using SLAM.
- Implemented occupancy grid mapping algorithm, Monte Carlo Localization, and SLAM.
- Mbot equipped with a 2D lidar, magnetic wheel encoders, and a MEMS 3-axis IMU.

2018

"BP Champs": Ping Pong Shooter
Embedded System Design Project

- Ping Pong ball shooter using DC and servo motors controlled via a Nintendo-64 controller using an ARM Cortex M3 based prototyping board.
- Implemented DC motor and servo motor functionality, as well as LCD display interface.
- Ping pong shooter integrated with computer vision to allow simple autonomous control.

2017

"Restaurhunt": Android Mobile Application
MHacks 8 Project: Back-end Developer

- Team of five students; designed swipe-based system to connect food lovers to a network of top liked food in the area.
- Programmed algorithm to rank food items based on relevance to user.
- Implemented in Android Studio using Java.

2017

SKILLS

PROGRAMMING: C++, Python, C, Java, MATLAB, Bash, SQL, HTML/CSS

APPLICATIONS: Actel Libero, Altera Quartus, INCA, Microsemi SoftConsole, Simulink, Vector CANalyzer, Vehicle Spy

OPERATING SYSTEMS: Linux, Ubuntu, macOS, Windows

ACTIVITIES

University of Michigan HAIL
Alumni Interviewer

- Interview prospective Michigan Engineering applicants in comfortable conversational settings.
- Share my personal Michigan experience and establish personal connections with applicants.

2018 to Current

Vehicle Engineering TRACK 101
VE TRACK 101 Advisory Board Lead

- Coordinate seminars for TRACK engineers to develop their technical knowledge ranging from vehicle systems to workplace skills.
- Facilitate networking through interaction with leadership and other TRACK engineers.
- Organized Body Closures 101 session, Resume Workshop, and Interview Workshop.

2018 to 2019