Robin (Zihao) Lin

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EDUCATION

Cornell University — College of Engineering, *Ithaca, NY*
Bachelor of Science in Electrical and Computer Engineering *Aug. 2019 – May. 2022*
Rising Junior (Third Year), Dean's List, Tau Beta Pi
Minor in Computer Science
Relevant Coursework: Digital Logic, Computer Organization, OOP and Data Structures, Algorithms, Circuit Analysis, Introduction to Machine Learning, Microelectronics, Signals and Information, Quantum Physics of Semiconductors and Nanostructures

SKILLS

Programming: C++/C, Python, Java, MATLAB, Git/Github
Web/Media: HTML, CSS, JavaScript, Node.js, Bootstrap, React.js
Machine Learning: Tensorflow, Google GCP ML, OpenCV, PyTorch, Scikit-learn

EXPERIENCE

Uber - Advanced Technologies Group (ATG)
Software Systems and Testing Engineering Intern *June. 2020 – Present.*
- Working within the Perception and Prediction (PnP) subsystem.
- Developing Python scripts for automating SDV Data Collection Analysis using GraphQL
- Wave 2 Subsystem Verification of Fault Detector and QGS

University of Toronto - Department of Electrical and Computer Engineering
Research Intern *May. 2019 – Aug. 2019*
- Derived a pseudo-spectral numerical scheme (Split-step Fourier Method) for solving the Coupled Nonlinear Schrödinger Equations.
- Wrote a MATLAB numerical gain solver for the Four-Wave Mixing (FWM) optical process in semiconductor devices.

York University - Sherman Health Sciences Research Center
Research Intern *May. 2017 – Aug. 2017*
- Developed an Arduino-based foot-mounted inertial navigation system implementing a zero-velocity update algorithm (ZUPT).
- Wrote sensor acquisition and fusion scripts using C/C++, MATLAB, and the MahonyAHRS/MadgwickAHRS Arduino libraries.
- Utilized Fritzing to design schematics of the circuitry for the on-board Bluetooth, magnetometer, and gyroscope modules.

PERSONAL PROJECTS

Over-the-Air Deep Learning Based Radio Signal Classification
Github Repository *April. 2020 – May. 2020*
- Developed a convolutional neural network (CNN) classification model for classifying modulation schemes of radio communication signals using PyTorch and Scikit-learn.
- Tuned hyperparameters including learning rate, optimizers, network architecture, L2 regularization, and batch normalization.
- Achieved an overall training accuracy of 92% and a testing accuracy of 45%.

Autonomous Maze Solving Robot
Github Repository *Sept. 2019 – Dec. 2019*
- Conceptualized, prototyped, and tested an Arduino-based maze solving robot with a team of five engineers.
- Implemented the sensor fusion code and depth-first search finite state machine for maze navigation in C++, utilizing Git/Github for version control with team members.
- Designed and prototyped circuitry for infrared sensors, an RF radio module, and a multiplexer on a protoboard.

Optical Character Recognition System
Github Repository *Nov. 2019 – Dec. 2019*
- Developed software that annotates and characterizes words in an image using the Google Cloud Platform Vision API and Python.
- Used the OS module to load image files from a specified directory.
- Implemented image annotation functionality (box drawing around detected words) using Pillow, Matplotlib, and Numpy.

EXTRACURRICULAR ACTIVITIES

Cornell Association of Computer Science Undergraduates, *Ithaca, NY*
General Member *Sept. 2019 – Present.*
- Attended weekly presentations pertaining to CS and the software industry and engage in networking events.