

Robin (Zihao) Lin

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📧 [robinlin99](#)

📁 [Portfolio](#)

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EDUCATION

Cornell University, Ithaca, NY

Bachelor of Science in Electrical and Computer Engineering, Minor in Computer Science

Aug. 2019 – May. 2022

Rising Junior (Third Year), GPA: 3.94, Dean's List, Tau Beta Pi

Programming Coursework: OOP and Data Structures, Algorithms, Discrete Structures, Computer Networks and Telecommunication, Introduction to Machine Learning

EE Coursework: Digital Logic, Computer Organization, Circuit Analysis, Microelectronics, Signals and Information

SKILLS

Programming: C/C++, Python, Java, JavaScript, Swift

Hardware: MCAD (Autodesk Fusion 360, Inventor), Microcontroller (Arduino, Raspberry Pi), Microelectronics, Embedded Systems, Additive Manufacturing

EXPERIENCE

Uber - Advanced Technologies Group (ATG)

Development Test Engineering Intern

June. 2020 – Aug. 2020

- Developed an SDV Data Collection Analysis automation tool.
- Utilized GraphQL to extract metadata from mission specialists during road data collection.
- Developed a search algorithm for metadata properties.
- Implemented Google Sheets API for automated spreadsheet reporting of metadata occurrences.
- Reduced data analysis time from 4 hours to 10 minutes.
- Tools/Technologies: Python, GraphQL, Google Sheets API

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.
- Developed a numerical gain solver algorithm for the Four-Wave Mixing (FWM) optical process in semiconductor devices.
- Tools/Technologies: MATLAB

York University - Sherman Health Sciences Research Center

Research Intern

May. 2017 – Aug. 2017

- Developed an Arduino-based foot-mounted inertial navigation device for localization without the use of GPS.
 - Developed sensor acquisition and fusion algorithm for dead reckoning and state estimation.
 - Designed schematics of onboard circuitry for Bluetooth, magnetometer, accelerometer, and gyroscope modules.
 - Designed enclosure of inertial navigation device using Autodesk Fusion 360 and developed a 3D-Printed prototype.
 - Tools/Technologies: C/C++, MATLAB, Arduino, Autodesk Fusion 360
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PROJECTS

Memory Card Game

[Github Repository](#)

December. 2020 – Jan. 2021

- Built an emoji memory matching card game on the iOS platform using Swift.
- Implemented SwiftUI user interface, leveraging the Model-view-viewmodel (MVVM) architectural pattern.

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.
 - Integrated the sensor fusion code-base and depth-first search algorithm for localization/navigation in C++, utilizing Git/Github for version control with team members.
 - Designed and prototyped circuitry for on-board infrared sensors, RF radio module, and multiplexer.
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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.