

Zihao Lin

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EDUCATION

CORNELL UNIVERSITY

BS IN ELECTRICAL AND COMPUTER ENGINEERING

December 2021 | Ithaca, NY

CGPA: 4.028 | Dean's List

College of Engineering

Minor in Computer Science

UNIVERSITY OF TORONTO

BASC IN ENGINEERING SCIENCE

May 2019 | Toronto, ON

Dean's List (Fall '17 - Winter '19)

Transferred to Cornell University

COURSEWORK

Digital Signal Processing

Digital Logic & Computer Architecture

Data Structures & Algorithms

Object-Oriented Programming

Intelligent Physical Systems

SKILLS

TECHNICAL

Strong:

Python3 • C • JavaScript (ES6)

HTML5/CSS3 • CLI • Git • Autodesk

Fusion 360 • SolidWorks • Arduino

MATLAB

Proficient:

C++ • React.js • Bootstrap • Node.js

Socket.io • \LaTeX • Tensorflow • OpenCV

Electromechanical Design

CLUBS

CORNELL ACSU | GENERAL

MEMBER

Sept 2019 – Present | Ithaca, NY

Attend weekly presentations pertaining to CS and the software industry and engage in networking events.

UOFT ROBOSOCCKER CLUB |

MECHANICAL DESIGN ENGINEER

Sept 2017 – May 2019 | Toronto, ON

Utilized CAD (Autodesk Fusion 360, AutoCAD) and 3D Printing to design and prototype the arm component of a humanoid robot soccer player in preparation for the 2018 RoboCup.

EXPERIENCE

UNIVERSITY OF TORONTO - DEPARTMENT OF ECE | RESEARCH INTERN | [GITHUB](#)

May 2019 - August 2019 | Toronto, ON

- Derived a numerical scheme for solving the Nonlinear Schrödinger Equation.
- Wrote a **MATLAB** numerical gain solver for Four-Wave Mixing (FWM) in semiconductor devices.

NATIONAL UNIVERSITY OF SINGAPORE - DEPARTMENT OF PHYSICS | RESEARCH INTERN

May 2018 – August 2018 | Singapore

- Developed an optical characterization system for nitrogen-vacancy centers in nanodiamonds through time-resolved photoluminescence spectroscopy.

UNIVERSITY OF TORONTO - DEPARTMENT OF MIE | RESEARCH INTERN

May 2017 – August 2017 | Toronto, ON

- Manufactured, characterized, and tested mechanical, thermal, and electrical properties of four configurations of carbon nanotube thin films as electrocatalyst of Zinc-Air batteries.

YORK UNIVERSITY - SCHOOL OF ENGINEERING | RESEARCH INTERN | [GITHUB](#)

May 2017 – August 2017 | Toronto, ON

- Developed an **Arduino**-based foot-mounted inertial navigation system implementing a zero-velocity update algorithm (ZUPT).
- Utilized **MATLAB**, circuit-design software, and 3D Printing to design, program, and prototype the software and hardware components of the system.

PROJECTS

CHATUP | REAL-TIME CHAT APPLICATION | [GITHUB](#)

August 2019 – September 2019 | Ithaca, NY

- Developed a multi-user real-time web chat application with **Node.js** and **Socket.io** as backend.
- Built frontend using **HTML/CSS** and **BootstrapCDN**.

LANE_DETECTION | LANE ANNOTATION TOOL | [GITHUB](#)

August 2019 – September 2019 | Ithaca, NY

- Developed a tool that annotates road lanes in videos using **Python**, **OpenCV**, **Matplotlib**, and **Numpy**.

FACE_DETECT | REAL-TIME FACIAL LANDMARK DETECTION | [GITHUB](#)

August 2019 – September 2019 | Ithaca, NY

- Developed a web application that performs facial landmark detection and emotion categorization from the user's video stream.
- Built with **HTML**, **JavaScript**, and **face-api**.

CHESS ENGINE | AN AUTOMATED CHESS PLAYER | [GITHUB](#)

April 2018 – May 2018 | Toronto, ON

- Developed an automated chess player in **Python** that evaluates potential moves using a k-ary tree data structure.