Michael Lin

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EDUCATION

University of Waterloo 2017-2022
B.ASc Mechatronics Engineering (Co-op), Term: 3A Class of 2022

Technical skills: C • C++ • Python • Java • JavaScript • MySQL • HTML • CSS
Tools: Git • Excel • Matlab • Android Studio • SolidWorks • AutoCAD
Courses: Data Structures and Algorithms • Digital Logic • Microprocessor Interfacing • Real Time Operating Systems

CERTIFICATION

Deep Learning and Neural Networks | Coursera.org

- Developed 4-layer neural network to implement a cat image classification program with an **80% accuracy**
- Used Python scientific libraries to code functions for forward propagation, cost, backward propagation, and optimization

WORK EXPERIENCE

Embedded Software Engineering Intern | Ignis Innovation **Jan 2020 – Mar 2020 | Waterloo, ON**

- Designed an implemented a user-friendly **Android app** to control OLED screen settings using Android Studio
- Conducted **experiments** to assess Pixel 2XL power consumption based on OLED correction factor algorithm
- Collaborated with FPGA team to update low level **graphics firmware** to add HDMI support on Xilinx ZYNQ Ultrascale
- Implemented Windows MP4 decompression library to reduce excessive memory use in video playback feature

Automation Systems Designer | ATS Automation **May 2019 – Aug 2019 | Cambridge, ON**

- Designed prototyped and validated an improved pharmaceutical **manufacturing process** which increased overall operating **efficiency by 35%** and maintained quality over existing procedure
- Performed **tolerance analysis** using a digital microscope to troubleshoot high precision medical device parts
- Worked with applications engineering team to **conceptualize station designs** and make presentations for clients

Product Automation Designer | Daltec Fans **Sep 2018 – Dec 2018 | Guelph, ON**

- Modeled centrifugal fans and produced manufacturing drawings for **steel sheet metal fabrications** in SolidWorks
- Created a design automation program using DriveWorks which **saves 5 hours** of development time per fan
- Consulted with mechanical engineers to establish standards for stiffener placement to reduce vibrations, weld clearances and bending radiuses

Junior Web Developer | University of Waterloo **Jan 2018 – Apr 2018 | Waterloo, ON**

- Developed a course evaluation feedback tool from scratch to read in and **display aggregated metrics**
- Designed a user-friendly front-end interface by adding responsive styling using BootStrap4, HTML and CSS
- Developed a scalable backend infrastructure using **PHP and MySQL** to organize over 100,000 data entries

PROJECTS

Personal Portfolio Website | lin-michael.github.io/

- Developed a website with an **optional dark mode** to showcase my experiences and projects

Obstacle Course Robot | Sensors and Instrumentation Course

- Designed **signal processing** circuits for encoders, thermistors and magnetic sensors
- Soldered through pin capacitors, transistors, resonators, voltage regulators and resistors

6-axis Gesture Controlled Robot Arm | Hack the North 2019

- Used **RF transmitters** to communicate gesture control movements **over I^2C** across Arduino boards
- Programmed an algorithm to calibrate accelerometer and motor movement