Daniel Xie

(519) 300-2863 • dxie33@uwo.ca • danielxie.me • linkedin.com/in/daniel-xie-2001

Key Qualifications

CAD/ECAD Tools: Eagle Autodesk, Saturn PCB Design Toolkit, Onshape, SolidWorks
Programming Languages: Python, Java, MATLAB, C, C++, Rust, Bash, ARM Assembly
Software Development Environments/Tools: IntelliJ, Microsoft Visual Studio Code, Microsoft Visual Studio, Google Colaboratory, Jupyter Notebook, Android Studio, MATLAB, Simulink, Arduino IDE
Laboratory Equipment/Tools/Skills: Digital Oscilloscope, Multimeter, Function Generator, Soldering

Education

University of Western Ontario, London, ON   2019 - 2023
Candidate for Bachelor of Engineering Science, Computer Engineering (Electronic Devices in Ubiquitous Computing/Hardware)

- Western Scholarship of Excellence (2019)
- 2019 WHMIS Certificate

Work Experience

Biophysics of Communication Lab - Research Assistant   Oct 2021-Present

- Developed solutions to improve laser OCT (Optical Coherence Tomography) imaging equipment to allow head researchers to capture data of subdermal structures' mechanics when subjected to sound.
- Improvements include better trigger signal apparatus, modifications to client software to allow for finer control of sampling frequency and sound generation, etc.

Extracurricular Experience

Western Formula Racing - Traction/GLV Team Member   September 2019-Present

- Was a team recruit involved in manufacturing an electric formula car in the 2019-2020 season and a member electrical Traction/GLV (Grounded Low Voltage) team from 2020-2022.
- Gained knowledge and hands-on experience in wiring the wire harness, designing PCBs (Printed Circuit Boards) and using CAD tools such as SolidWorks and Eagle Autodesk.
- Successfully collaborated with a teammate to design a DC-DC converter PCB to convert 500V to 12V for the GLV system and met Formula SAE safety guidelines.
- Updated the Power Distribution Module PCB design with an improved undervoltage protection circuit to prevent the over-discharging of the car battery cells.
- Developed a wireless telemetry system using LoRaWAN (Long Range WAN) transceivers to export real-time data from a MoTeC ECU (Engine Control Unit).

Western AI - Summer/Gideon Projects Member   September 2019-May 2021

- Was a member of the business applications team in the fall/winter of 2019 to create a Long Short-Term Memory neural network model to predict stock prices.
- Was member of a medical-imaging team during the summer 2020 trained a VGG16 model to diagnose different Alzheimer's disease stages using MRI images.
- During the fall and winter of 2020, was a member medical imaging team developed another VGG16 model using an X-ray scan dataset of 14 different diseases.
- Helped solve a variety of debugging issues and gained hands-on experience and knowledge developing linear regression models and neural networks.
- Was able to refine skills to find an optimized set of weights and preprocessing to consistently achieve 95% accuracy with the VGG16 models

Other Interests

- Wireless Microcontrollers, Video Games, Cooking, Basketball, Formula 1 Racing