Daniel Xie

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Skills

- **CAD/ECAD:** Eagle Autodesk, Saturn PCB Design Toolkit, Onshape, SolidWorks, Cadence Virtuoso
- **Programming Languages:** Python, Java, MATLAB, C, C++, Rust, Bash, ARM Assembly
- **Software:** IntelliJ, Quartus Prime, Microsoft Visual Studio Code, Microsoft Visual Studio, Google Colaboratory, Jupyter Notebook, Android Studio, MATLAB, Simulink, Arduino IDE
- **Tools/Skills:** Digital Oscilloscope, Multimeter, Function Generator, Soldering
- **Frameworks:** PyQt5, Tensorflow
- **Operating Systems:** Windows, Linux, Unix

Education

Bachelor of Engineering Science, Computer Engineering 2019 - 2023
Western University, London, ON

Work Experience

Biophysics of Communication Lab - Research Assistant Oct 2021-Present
Western University, London, ON

- Developed a custom Windows sound editor and generation application.
- Developed an external trigger signal apparatus for the OCT (Optical Coherence Tomography) imaging equipment using a function generator, oscilloscope and SpectralRadar SDK.
- Improved workflow, data sampling rate precision and data acquisition efficiency.

Projects

Western Formula Racing - Traction/Grounded Low Voltage Team Member September 2019-Present
Western University, London, ON

- Developed and designed a DC-DC converter PCB (500V to 12V) that was compliant with the Formula SAE safety guidelines.
- Updated the Power Distribution Module PCB design utilizing undervoltage protection circuits to prevent overdischarge of the lithium-polymer battery cells.
- Developed a wireless telemetry system using Arduino, CANBUS and LoRaWAN (Long Range WAN) transceivers for real-time data acquisition from the VCU.
- Supported subsystem team projects with duties including: wire-harness assembly, sourcing components and generating BOMs, PCB assembly and troubleshooting.

Western AI - Summer/Gideon Projects Member September 2019-May 2021
Western University, London, ON

- Developed and debugged a Long Short-Term Memory neural network model to predict stock prices.
- Developed, trained and debugged a VGG16 neural network models that achieved ∼95% accuracy in diagnosing different Alzheimer's disease stages from MRI images and achieved ∼92% accuracy in diagnosing 14 different diseases X-ray scans.

Smart Door Lock March 2021 - April 2021

- Simulated and designed an Arduino-based smart door lock for a backyard shed using TinkerCAD software.
- Generated BOM and prototyped the smart door lock with BLE capability, stepper motor, and I2C LCD display on breadboard.
- Designed schematic and PCB layout for a custom Arduino shield using Eagle.

Other Interests

Wireless Microcontrollers, Formula 1 Racing, Cooking and BBQ, Basketball, PC Gaming