Urban Pistek

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Experience

Athos — Redwood City, CA, USA
Embedded Engineering Intern — Jan 2021 - April 2021

- Developed firmware for an NRF and STM SoC using **C** with The Zephyr Project **RTOS** and **Python** for scripts and testing.
- Utilized embedded tools such as **GDB**, **Jlink**, **Altium** and **Oscilloscopes** for development and debugging.
- Developed an IMU, Magnetometer and digital signal processing driver using CMSIS and custom sensor APIs.
- Implemented a firmware architecture for automated PCBA testing of peripherals such as BLE, SPI, I2C, GPIO, PWM and UART.

Athos — Redwood City, CA, USA
Software Engineering Intern — Sept 2021 - Dec 2021

- Integrated and developed component and system tests into a **Jenkins CICD** and End-to-End testing pipeline.
- Utilized **Robot Framework** to develop automated End-to-End tests involving Python, iOS, Redis, and C components.
- Developed UI tests for an iOS mobile app using the Xcode UI testing (XCUI) testing framework in **Swift**.

IntelliCulture — Kitchener, ON, Canada
Software Engineering Intern (Co-op & Part-time) — May 2020 - Present

- Leading development of the back-end infrastructure and data platform for core products and internal development.
- Designed testing infrastructure for E2E, integration, and unit testing using **Pytest**, **Jest**, **Robot Framework**, and **Jenkins**.
- Maintaining and improving **NodeJs**, **Python**, **Shell**, **Fauna DB**, **Docker**, and **Jenkins** technology stack.
- Involved in innovation pipeline running minimum viable experiments and **R&D** to determine new product opportunities.

Geotab — Kitchener, ON, Canada
Automotive R&D Engineering Intern — Sept 2019 - Dec 2019

- Performed R&D with **hardware** and **firmware** for IoT devices within a embedded development environment.
- Designed a custom **PCB** for hardware testing using **Altium** to develop the schematic, board layout and component libraries.
- Engaged in rapid prototyping utilizing **Arduino** for quick development while reverse engineering various PCB's and devices.

University of Waterloo — Waterloo, ON, Canada
Research Assistant — Jan 2019 - April 2019

- Co-Authored a paper investigating the role of spot weld electrode geometry on liquid metal embrittlement crack development.
- Collected data on using Excel and Matlab to perform data analysis to understand the effects of liquid metal embrittlement.

Projects

BLE Occupancy Sensing — Skills/Technologies:
Developed a **Convolutional Neural Net** (CNN) to detect human occupancy with 80% accuracy. — Python | Anaconda | Keras

Synchrotron XAS Experiment — Skills/Technologies:
Scientific experiments for the Canadian Light Source SoB competition using XAS. — XAS | Data Analysis | Physics

Relay Control and LV Diagnostics PCB — Skills/Technologies:
Designed a PCB to control relays and perform LV diagnostics through CAN. — PCB Design | KiCAD | C++

Skills

- **Programming:** Python, C, Javascript, C++, NodeJs, Anaconda, Keras, ROS, Jenkins, MySQL
- **Software:** Git, Zephyr RTOS, Docker, GDB, Altium, KiCAD, Matlab, Arduino, Robot Framework, Ubuntu
- **Technical Skills:** Firmware, Hardware, Full Stack, PCB Design, Data Engineering, Deep Learning
- **Soft Skills:** Leadership, Project Management, Public Speaking, Agile Workflow Environment

Education

University of Waterloo — Waterloo, ON, Canada
Candidate for BASc in **Mechatronics Engineering** — Graduation: April 2023