Justin Mateo

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WORK EXPERIENCE

Arlo Technologies Canada **Sep. 2023 – Dec. 2023**
Project Management Co-op *Richmond, BC*

- Arlo Technologies is a wireless surveillance camera company; mainly worked on and managed the project of releasing the next line of products.
- Communicated with multiple internal local/international teams and external contractors to ensure project status is updated.
- Presented multiple data analyses and revision recommendations for hardware/software to the Project Management team and SW/HW teams.
- Created test plans to then gather useful data to verify new revisions of Arlo's ongoing R&D projects.

Adara Systems Ltd. | Conetec Investigations Inc. **Jan. 2021 – Dec. 2021**
Electrical/Mechanical Engineering Co-op (8 months) and Contractor (4 months) *Burnaby, BC*

- Adara Systems is the electronics manufacturing and development arm of Conetec, who provide instrumentation, data acquisition systems and tools for various types of measurements of the soil underneath.
- Mainly worked on Instrumented Becker Penetration Test (iBPT) Project, which included development of the DAQ system, and finalization. Documentation and training were created accordingly to pass down responsibility to future contributors.
- Improving products such as eCones, eResistivity and Vane/eVane Modules by optimizing the system for better accuracy of various sensor readings using Python and MATLAB.

PROJECTS

FrisMe – Ultimate Frisbee Launcher **Jan. 2024 – Present**

- A soon-to-be "shelf-ready" product that can throw accurate curved throws to stationary/running players who can further control the device through a portable controller interfaced with a mobile application.
- Overall system is compiled of the following systems: *frisbee propulsion, launcher-angle adjustment, aim adjustment*, machine vision and mobile application, which are all integrated together in an embedded system on the BeagleBone Green.
- Created some device drivers and tests for the above systems in C which interfaces with low and high-voltage systems which were specified with regards to device datasheets and power constraints.

Binary Neural Network on FPGA **Feb. 2023 – Apr. 2023**

- Contributor and team coordinator of the final group project of the SFU Digital Systems Design course (ENSC 350), finishing with a *120%* project grade.
- Designed a Python script that trains a binary neural network to characterize an image to be a digit from 0-9, using the MNIST data set, induced learning about the layers of the model, including the dense, batch normalization, reLU and soft max activation layers.
- Created the system by storing the trained model's weights into ROM, translating the fitting process into processes in VHDL, which will then display the characterized output. Each component of the system was vigorously tested.
- Ended with a good concept project that can be further optimized by simplifying the process into a proper data and control path.

Spot-A-Bone **Oct. 2022 – Dec. 2022**

- Team leader of the final group project of the Embedded Systems and Real Time Systems Software course (ENSC 351), finishing with a *100.6%* project grade.
- Utilized agile software development methodology to keep knowledge of the scope and timeline of the project throughout.
- Implemented an enclosed embedded system with the Beagle Bone Green as the MCU, using cross-compilation with a Debian operating system machine.
- NFC communication to choose songs/playlists, face recognition for account log-in, motion sensing for playback control, and Spotify API usage implemented in C and Python

EDUCATION

Simon Fraser University **Sep. 2019 – Aug. 2024**
B.A.Sc. in Engineering Science, ***Computer Engineering*** *Burnaby, BC*

- Deans Honour Roll 2nd, 3rd & 4th year; 3.59/4.33 CGPA
- Advanced Digital Systems, Embedded and Real-time Systems, Data Structures and Algorithms, Database Systems, Operating Systems

SKILLS & INTERESTS

- **Skills:**
  - **Software – Strong**: C/C++, Java, Python, MATLAB, VHDL, Windows, Linux. **Adequate**: SQL, JavaScript
  - **Soft** – Adaptable, Bilingual (English and Tagalog), Cooperator, Coordinated, Independent, Inquisitive, Leadership
- **Interests:** Cycling, hiking, snowboarding, basketball, gym, One Piece, games