Peter Quinn

SOFTWARE AND HARDWARE DEVELOPER - ROBOTICS

peterquinn.ca | Linkedin | English, French

Executive Summary

With a Master of Science in Electrical and Computer Engineering and over 3 years of experience in software and hardware development for robotics and autonomous systems, I am passionate about integrating cutting-edge technology to solve complex problems. At Torc Robotics, I led the development of calibration and analysis tools for robotic sensors. Proficient with industry standard tools such as git, linux, python, docker, Jira, and ROS, I thrive on tinkering with new technologies and continuously expanding my knowledge.

Experience

Software Developer, *Torc Robotics, Montréal, QC* 2023 - pres.
- Architected and led the development of a library and applications for calibration, monitoring, and analysis of robotic sensor suite (cameras, LiDARs, radars, GPS/IMU)
- Acted as scrum master for a team of six, leading the breakdown and planning of projects.
- Developed tools automated previously manual checks, improving consistency of data collected.
- Created tooling that tracked and logged diagnostic metrics for critical sensors to a cloud tool, reducing the review time of an incident from hours to minutes.
- **Technologies**: Git, Linux, Python, Docker, Jira, ROS, Bazel

Hardware Developer, *Algolux, Montréal, QC (acq. by Torc Robotics in 2023)* 2021 - 2023
- Integrated systems with computers, cameras, LiDARs, GPS, on company test vehicles.
- Designed circuitry (PCB, Arduino) for powering and synchronising equipment.
- Developed code for calibration, monitoring, and analysis of sensor suite.
- Travelled to company partners for demoing of equipment.

Education

Master of Science (Thesis), Electrical and Computer Engineering 2019 – 2021
McGill Graphics Lab, McGill University, Montréal, QC
- **Research Areas:** Differentiable Rendering, Computer Graphics, Machine Learning
- **Thesis:** Design and implementation of a novel differentiable light transport simulator in Python using PyTorch

Bachelor of Engineering, Honours Electrical Engineering 2015 - 2019
McGill University, Montréal, QC

Projects

Custom Embedded Control Unit for LEDs 2023
- Designed a custom circuit board, 3D printed enclosure, and programmed ESP32 controller with Arduino/C++ for an LED wedding dress

Embedded ML on FPGA for Gesture Recognition for Smart Home Control 2021
- Fine tuned and deployed a computer vision machine learning model to a Xilinx FPGA board
- Won 3rd prize in AMD-Xilinx Adaptive Computing Challenge