

Kuanghua Qiao

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Objective

- I am an electrical engineering graduate from York University. I strive for excellence in my work and enjoy solving new and interesting technical problems. Presently, I am looking for an entry-level job.

Education

- B.Eng. Spec. Hons. Electrical Engineering | Feb 2019 | York University

Skills and qualifications

SOFTWARE LANGUAGES AND TOOLS

- *Java, Javascript, C, C#, Python, MIPS assembly, Bash Shell script, MATLAB, LabView*
- *Linux, Git, Sublime Text, Eclipse, Visual Studio Code, .NET Core, PyQt GUI, Solidworks, Unity*

Work Experiences

RESEARCH ASSISTANT | BIOSA LAB YORK UNIVERSITY | 2018-PRESENT

- **Project 1: Age-Related Macular Degeneration Diagnostic Tool: Hardware and Software Development.**
 - Brought up a system for capturing small hand movement gestures within a series of research experiments, to recognize two distinct hand gestures made in real-time with an accuracy of 82%.
 - Programed the Adafruit 32u4 feather BLE board to enable the device being used wirelessly.
 - Developed a GUI with C# and .NET core framework that enables gesture recognition and device debugging.
 - Research paper accepted by 61st IEEE International Midwest Symposium on Circuits and Systems.
- **Project 2: A Non-Invasive Wireless Respiratory Monitoring System for Animals.**
 - Designed a biomedical device to noninvasively monitor a dog's breath rate with 99.7% accuracy using a piece of conductive fabric and wireless technology to remotely monitor breath rate in an undisturbed environment.
 - Programed the ESP32 SoC to enable the device being used wirelessly.
 - Developed a GUI with MATLAB that analyze and log the signal.
 - The research was showcased in Lassonde Undergraduate Research Conference 2018
- **Project 3: Core-CBCM CMOS Capacitive Sensors for Life Science Applications.**

- Built out a test platform on top of a custom-designed CMOS integrated circuit to characterize the behavior of a capacitive biosensor.
- Designed, ordered, assembled a PCB to power the custom CMOS and interface it with our embedded system.
- Programmed the SAM3X8E microcontroller to generate input and output which facilitated the analysis and characterization of the target sensor.
- Developed a GUI with Python and PyQt that analyze and log the data from the target sensor.

Volunteer Experiences

ELECTRICAL SUBSYSTEM DESIGNER | YORK UNIVERSITY SPACE ENGINEERING NANOSATELLITE DEMONSTRATION GROUP | 2015-2016

- Conducted battery qualification test which identified a selection of space-qualified batteries from numerous products on the market.

ELECTRICAL TEAM LEAD | LASSAT CSDC YORKU TEAM (CANADIAN SATELLITE DESIGN CHALLENGE) | 2016-PRESENT

<https://github.com/okyx10a/CSDC-electrical/tree/Working-branch>

- Designed and implemented the solar panels system which enabled the satellite to sustain itself in orbit, which generates 6W of power per orbit.
- Programmed the power system to monitor live behavior feeds and enable power system fail-safes during a live deployment.
- Prepared education materials that document current progress and future plans and for new members.

Achievements

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| • The Gordon and Agnes (Twambley) Brash Award in Eng York | Nov 2015, Nov 2014 |
| • University Continuing Student Scholarship | Aug 2014 |