# Kuanghua Qiao

Mississauga, ON, L4Z 0C3 | 647-220-5668 | qiaokuanghua@gmail.com

## Objective

- I am an electrical engineering graduate who's passionate about the electronics industry. 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, Shell script, MATLAB, LabView*
- *Linux, Git, Sublime Text, Eclipse, Visual Studio Code, Atmel studio, uVision, .NET Core, PyQt GUI, Altium Designer, Kicad, Cadence, NX, Solidworks*

**HARDWARE SKILLS AND TOOLS**

- *FPGA, Verilog, Bare metal board programming, I2C, SPI, UART, BLE, Wifi*
- *Embedded hardware design, Power Electronics, PCB layout design, BOM management*
- *SMT soldering, Hot air rework, Wire bonding, Electroplating, Circuit probing/debugging*
- *Multimeter, oscilloscopes, Function generator, Logic analyzer, Network analyzer*

## 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 and residents faculty.

## Achievements

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