Owen Qiao

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# Objective

* I am an electrical engineering graduate who’s passionate about the electronics industry. Currently, I am working as a research assistant. I am looking for an entry-level job.

# Education

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

# Skills and qualifications

**Software skills**

* Java, Javascript, C, C#, .NET Core, Python, PyQt GUI, MIPS assembly
* Linux, Object-Oriented Programming, Data structures, multithreaded programming, Git

**Hardware skills**

* FPGA, Verilog, Embedded software development, I2C, SPI, UART, Bluetooth, Wifi
* Embedded hardware design, Power Electronics, PCB layout design, BOM management
* SMT soldering, Hot air rework, Wire bonding, Electroplating, Electronics repair

**TheorEtical knowledge**

* Digital communication, Digital logic, Signal processing, Control systems, Operating systems
* 3-phase power distribution network, Synchronous machines, Transformers

**Design and diagnostic tools**

* MATLAB, LabView, Altium Designer, Cadence, NX, Solidworks, Siemens PSSE, Atmel studio
* Multimeter, oscilloscopes, Function generator, Logic analyzer, Network analyzer

**Soft Skills**

· Can-do attitude, dare to take on any challenge, willing to learn anything to get the job done

· Ability to plan, prioritize and execute multiple tasks and meet the designated deadlines

· Good teamwork and communication skill as well as, dependent problem-solving skills

# Work Experiences

## Research Assistant | BioSA Lab York University | 2018-present

* Project 1: Age-Related Macular Degeneration Diagnostic Tool: Hardware and Software Development. In this project I am responsible for bring up the device for capturing small hand movement for the research experiments. 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 that can noninvasively monitor a dog’s breath rate using a piece of conductive fabric. The device utilizes wireless technology to remotely monitor animals breathing condition in an undisturbed environment. The research was showcased in Lassonde Undergraduate Research Conference 2018
* Project 3: Core-CBCM CMOS Capacitive Sensors for Life Science Applications. This project aims to create a capacitive biosensor with CMOS integrated circuit technology. My role in the project is to set up and support the testing and characterization process of the CBCM IC. Details include, design, order, assemble the interface PCB; program a microcontroller to generated input and output; creating interface and automation software on test workstations.
* Project 4: Micro-coil Development for Nuclear Magnetic Resonance Machine. The main goal of this project is to increase the through put of an NMR machine by having an array of microsopic coils. My role in the project is to design the shape of the coil and its matching circuitry. This a project in collaboration with Bruker and University of Toronto.

# Volunteer Experiences

## Electrical SUBSystem DesiGNer | York university Space engineering nanosatellite demonstration group | 2015-2016

* Revised existing EPS board PCB layout.
* Participated in creating payload handling the application on NASA opensource OS.
* Conducted battery qualification test.
* Gained elementary knowledge in embedded software development.

## Electrical team Lead | Lassat CSDC yorku team (Canadian Satellite Design Challenge) | 2016-present

* Created new component libraries for the satellite solar cell.
* Schematic entry and the layout design of satellite solar panels using Altium designer.
* Prepared presentation and tutorials for new members of the team.
* Took part in revising various electrical subsystems of the satellite such as OBC, EPS, ACS boards.
* Our design repository: <https://github.com/okyx10a/CSDC-electrical/tree/Working-branch>

# Achievements

* The Gordon and Agnes (Twambley) Brash Award in Eng York Nov 2015, Nov 2014
* University Continuing Student Scholarship Aug 2014
* Lassonde Undergraduate Research Conference Aug 2018
* A Non-Invasive Wireless Respiratory Monitoring System for Animals (poster)