Kuanghua Qiao

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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, Microcontroller programming, I2C, SPI, UART, BLE, Wifi*
- *Embedded hardware design, Power Electronics, PCB layout design, BOM management*
- *SMT soldering, Hot air rework, Wire bonding, Electroplating*
- *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 an input subsystem for capturing small hand movement gestures within a series of research experiments, to facilitate the user input during experiments.
  - Integrated accelerometers and flex sensors with the microcontroller to enable the gesture recognition functionality that can recognize two distinct hand gestures made in real-time with an accuracy of 82%.
  - Project research paper accepted by 61st IEEE International Midwest Symposium on Circuits and Systems conference.

- **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.

- Integrated stretch sensor with a MatLab peak counting function to enable the breath rate monitoring functionality.
- 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 enable the interfacing of the custom CMOS with our embedded system.
- Programmed an embedded system to generate input and output which facilitated the analysis and characterization of 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

· Implemented the solar panels system which enabled the satellite to sustain itself in orbit, which generates 6W of power per orbit under simulation.
· Programmed the power system micro-controller to monitor live behavior feeds and enable power system fail-safes during a live deployment.
· Prepared tutorials and documentation that record current progress and future plans to support new members.

Achievements

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