Statement of Research Interest

My name is Kuanghua Qiao. I graduated from York University in June,2019, Major Electrical Engineering. I am writing to express my interest in pursuing the MASc at Department of Electrical Engineering & Computer Science of York University. My main research interest is Embedded Hardware/Software and Low power mixed-signal Integrated Circuit Design. The main reason for me to pursue a graduate degree is to gain advantage in the job market and further specializing into a professional field of my interest. I am excited by the prospect of performing research and broadening my knowledge of Integrated Circuit Design, and I believe I would make an excellent Master candidate.

I took Professor Ghafar-Zadeh’s class EECS4641 Introduction to Medical Devices in 2015, I was immediately fascinated by the idea of (elaborate----example: How bio/ Electrical engineering works in the medical field. (describe what Professor’s major research field and why this interest you and would like to join him) and I have discussed about the available Master position in BioSA Research Group. As he found me a qualified candidate for this position, supporting my application, he has agreed to be my Master supervisor should I be accepted. (可以这么说吗？换个说法）

I am passionate about embedded system and Integrated circuit design. During my time as an undergraduate student I have been working in BioSA laboratory under professor Ghafar-Zadeh’s supervision for two semesters. During this time, he gave me a lot of guidance on electronics as well as research practice. He had shown great support and patience toward my projects.

For my first project I participated in the *Age-Related Macular Degeneration Diagnostic Tool: Hardware and Software Development.* In this project, I developed a wireless input apparatus that can capture hand gestures. The resulting device can recognize two distinct hand gestures made in real-time with an accuracy of 82%.

The second project I is *A Non-Invasive Wireless Respiratory Monitoring System for Animals.* In this project, I 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. The research was showcased in Lassonde Undergraduate Research Conference 2018.

Finally, I participated the *Core-CBCM CMOS Capacitive Sensors for Life Science Applications* project. In this project, I built a test platform for the capacitive sensor designed by another PhD student. The test platform includes a PCB interface, a microcontroller that generate the test signal and a python test script that has a GUI. Through the series of projects, I’ve done in the BioSA laboratory I have gained a well understanding of all aspects of embedded system design including microcontrollers, serial communications, power supply modules and PCB design.

Lay out a concise and orderly research plan for the near and distant future. Ask yourself what you would do in your field if you had unlimited resources.

What are you going to research about? What is the topic? Describe the project and how are you going to achieve it?

谈谈你为什么想读这个学位the advantage of York’s Master’s Program, such as facility,advanced labtory, friendly staff,etc.,

I have also passed most of the related electronics courses with good grades such as EECS3611 Analog Integrated Circuit Design, EECS3612 Sensors and Measurement Instruments and EECS4421 Introduction to Robotics in which I got an A. However, I do not meet the requirement for admission; That is because of two major reasons: 1) I was suffering depression caused by my relationship and family issues during the last few years of my under graduate studies; 2) The course curriculum for the first-generation electrical engineering students was not well organized. These problems will no longer trouble me if I can join the program. I have recovered and learn to handle my problems. I am ready for furthering my academic achievement.

For my graduate studies, I would like to improve in the projects I did by applying new techniques such as VLSI and building a more complex yet reliable and easy to use circuit board. I have gathered numerous ideas and skills over my spare time and eager to try them out, and with the help of EDA software access on campus I can surely

Rework your opening summary.

首尾呼应， 总结点题。

I could greatly benefit from Professor XXX’s teaching and guidance in applying these ideas to my project.