**Personal Statement**

I spent my first year at George Fox University, studying mechanical engineering. However, I found that many traditional mechanical parts used to control by hydraulic pipes can be easily replaced by microcontrollers and servo motors which the control data can be easily acquired and further processed. This reminded me of the programming experience for the microcontroller in my high school, which led me to change my major to Electrical and electronic engineering and reapplied to the University of Nottingham. The in-depth study and understanding help me continuously adjust the direction moving forward.

In the first year at Nottingham, I participated in a group project to design a robot car to achieve some advanced functions such as line following by applying OpenCV to cameras and PID control. Besides, there were some other modules like RFID sensor, gyroscope, accelerator as well as a remote controller where powered by Arduinos and a Raspberry Pi. In this project, I did 85% of the programming and hardware designing. Therefore, I further realized that programming was the tools for all the engineering subjects. From my perspective, I think if I could learn more programming skills and applied with my electronic hardware skills, I could have a better ability to design electronic items. Thus, I changed my major from Electrical and Electronic engineering to Electronic and Computer Engineering in my second year. In the next years, my participation of various projects, e.g., a doppler radar prototype design, Android application development, constitutes a virtuous cycle to expose my shortcomings and to inspire me to further my programming skills such as C++ programming skills including generic programming, code optimisation and parallel processing and Java.

Beyond academic projects, in my freshman summer, I joined my friend’s company to help them write the Android application, for which my self-studied Java and a little bit of python came in handy. Besides, we built a website based on my knowledge of CSS and HTML. These awakened me that programming is the best thing I ever leant. With such accumulation, I started to know the relevant subjects such as artificial intelligence and machine learning. I accidentally got a VR device from my friend this summer, and I played the flight simulator with it. The immersion feeling made me feel that this is the future. Further, in CASC, I designed the CanSat for high school students based on stm32 microcontrollers. Besides, I also helped them designed a real satellite theoretically. This satellite was a 2U cube satellite which was called Bayi Youngsters' Expedition No.2, and it will be launched by the end of this year. In this project, we calculated the SNR and other relevant performance requirements to design the ideal transmitter and receiver, and wrote the programs to test the stability of the satellite by applying the PID control on the momentum wheels.

The PID control I further modified in this summer and applied on my homemade rocket. Although the trial failed eventually, I am interested in the robotics and automatic control, and this is why I choose this major in my master’s degree. Nowadays, automation cannot leave the control system and the autonomous system. This area of study is widely applied from the toy drones to autonomous vehicles. I believe the PhD, MScR EPSRC Centre for Doctoral Training in Robotics and Autonomous Systems at Edinburgh will meet the latest industry requirements for its well-established control theory, well-designed curricula and scientific teaching methods.

After graduation, I will probably join a systems-based company. My knowledge of Robotics and Autonomous Systems will give me extraordinary skills in system design. Anticipate your favorable reply.