I am currently a final year student in the University of Edinburgh, and my degree is BSc Artificial intelligence and computer science. I would like to apply for a position in machine learning postgraduate degree in UCL because the content of this degree is a continuation of my undergraduate subject matter. I will obtain massive knowledge and skill in machine learning after I finish with this degree and also my understanding of machine learning algorithm and mathematics behind it will largely improve.

Mathematics and machine learning in high school held little interest for me. My negative opinion towards computer science, mathematics and machine learning continued until I personally saw and learned how machine learning algorithms based on mathematical theory implemented by tensor-flow or py-torch can outperform humans in predicting future events or summarising the internal structure of data. And during the projects and interns of my undergraduate, I personally realised that mathematics is a concise language to express ideas, understand patterns, quantify relationships and predict the future. Machine learning is an era-defining way to utilise and apply these mathematical theories to compose a set of procedures to solve the actual problem.

I used to think data science and machine learning were obscure and difficult-to-understand techniques. The first time I realised these things can have a huge impact on people's life was in the second year of my undergraduate degree when I developed a web crawler and an emailing system. With this system I retrieved all the discount information from all nearby groceries and emailing this information to certain email addresses. I did not expect it to be popular, but then this system received compliments from my peers and I started to understand computer science and data science can have an impact on everyday life.

Last summer I worked in a research centre in DLUT (Dalian University of Technology) to implement, train and validate a WaveNet model. That was the first time I entered the industry and utilised the knowledge I learnt in class. At the beginning, I did not expect too much from the internship, I only applied for it because I did not want to idle away the hours. But then, I received a pleasant surprise because I heard with my own ears that machine-generated audio waves can be identical to human voice and music. Also, at that point I realised that my curiosity and affection towards machine learning as a subject was born and I needed to supplement a large amount of mathematical knowledge and programming skill to continue with my career.

My current honours project is to design and evaluate recommender systems using different algorithms. I chose this project because I wanted to improve the efficiency of the aforementioned web crawler system so that people can spend less time browsing the list of discounted items. During the course of my research, I saw for myself how amazingly an auto-encoder and a k-means algorithm can gather users' information and predict user behaviour. Through academic reading, I began to realise how deep learning can be applied to a collaborative filtering system to give more accurate recommendations. I am hoping to read a PhD or enter the industry as a machine learning engineer after I graduate.

I wish to study in UCL not only because UCL has a leading position in machine learning research but also has renowned professors and collaboration with deep mind where I can make contact with state of art and take aspiration. Moreover, I have always wanted to become a machine learning scientist after graduation, the reputation and the location of UCL can provide me with more opportunity to enter the industry.