

## **Personal Statement**

I was first captivated by the power of AI after seeing AlphaGo winning against humans. Studying as an undergraduate made me realise that reliability is a problem in many networks. It is important to undergo thorough training, therefore I am determined to further my study as a master's student at Imperial College London, with the hope of figuring out solutions to current problems in AI.

My first involvement in a computer science project started in my course Computer System Principles & Programming, where I was required to set up a fully-functional card game system that enabled online/offline running function. However, initial attempts required further improvement. During debugging of communication between several virtual game players, I encountered errors in the sent information. After meticulously checking every line of code, I discovered the problem was caused by simultaneous sending of information. I consulted dozens of papers in redesigning my plan, which led me to come across thread locking. After further repeated debugging and adjustments I solved the problem. Another problem occurred during the re-login process. Because I recognise the importance of research skills, I studied a variety of apps and programmes, such as Paypal and messenger, leading to the realisation that phone identification could be used to solve the problem. I decided to create passwords for users before they left, which would be used by players to continue their games upon logging back in. This elegantly provided solutions to several other problems. I was awarded a high mark for the project which not only equipped me with a strong sense of accomplishment, but also made me realise the significance of computer science, which resides in more convenience for users. The processes of problem finding and problem solving stimulated me to explore this field further.

Computer science is also a discipline requiring innovation. During another project I was required to complete a word search task among files exceeding 10 M. Unsatisfied with textbook methods which were elusive and made the retrieving process quite slow, I started to analyse the fundamentals of tree nests with the hope of finding a simpler algorithm. Inspired by the features of trees, I considered replacing the leaf of an upper part of the tree with a tree, thus achieving a tree nest. My innovation worked and could complete 30 tests within only 1ms. Computer science, especially AI, is from my perspective a discipline that pursues optimisation and innovation.

My past academic experience has transformed my enthusiasm for completing small computer science projects into a passion for revealing the mechanism behind different algorithms and methods. Your programme at Imperial College London would be the ideal place to achieve my goals, namely to be an Artificial-Intelligence engineer in the future. What attract me most is

your curriculum, which features cognitive robotics and complex systems. Moreover, your program would also focus a lot on practical skills that is significant for workers in this field. I am fully convinced that my previous experience, coupled with my creativity, persistence, and eagerness for furthering my expertise in computer science research will make me your ideal candidate.