UCAS Personal Statement

Anant Kapoor – Computer Science

Computers surround us in all aspects of life in this day and age. We are currently witnessing a golden age of innovation in many fields of computing such as Machine Learning. The McKinsey Global Institute argues that AI is contributing to a transformation of society “happening ten times faster and at 300 times the scale, or roughly 3,000 times the impact” of the Industrial Revolution. Each historical era has its key turning point and I feel that Computer Science has and will continue to play a huge role in shaping the society we live in today.

Programming has helped me explore Computer Science and its applications to real world problems. For my A2 computing project I am creating a program that analyses social media trends about what users post, specifically using posts about the weather in order to generate a real time weather forecast. I am going to carry this out using REST APIs in order to request data from social media websites such as Twitter and process the data accordingly. I feel that this topic is particularly relevant in the current day with the rise of big data and the masses of un-utilised data available on the web. More details of this project can be found on my website (http://anantkapoor.com/projects/projects.html).

In addition to the application of Computer Science, I am thoroughly interested in its theoretical underpinning. The book, 'Turing Omnibus' by Alexander Dewdney introduced me to the concept of Machine Learning, specifically the ability to model neurons in neural networks. This interest of the subject influenced me to lead a school assembly on the topic of Machine Learning in Autonomous cars. From reading 'Neural Computing: An Introduction' by R.Beale, I was able to understand major approaches of Neural Networks, putting each in perspective in terms of their capabilities, advantages, and disadvantages. I have tried applying this theory by creating perceptrons and attempting to create spam email classifiers in Python. Other projects can be found on my website which I have designed and written using HTML and CSS.

Furthermore, the book, 'Nine Algorithms That Changed The Future' by John MacCormick introduced me to another interesting field, namely Cryptography. I am particularly fascinated by the modular arithmetic used in the Diffie–Hellman key exchange, alongside the use of one way functions which together underpin secure communication.

To keep up to date with the latest news in computing I subscribe to various podcasts such as BBC R4's 'Digital Human' as well to the MIT Technology Review. These articles provide an insight into current and future applications of Machine Learning, such as Healthcare, Security and Robotics. To expand my appreciation of the subject I am a member of my school's Computer Science Society.

During the course of lower 6th I volunteered at my local primary school, mentoring year 6 pupils in both mathematics and science. I also took the opportunity to teach the students basic programming skills using Scratch, showing the creativity behind coding and hopefully providing a solid platform for further developing programming skills in the future.

Outside of academics I swim and run for my local sports teams, having competed at county level for shot putt. Alongside sports I am a keen photographer, with my personal portfolio available to view on my aforementioned website. During my time at school, I was offered the role of prefect which

enabled me to build my communication skills outside of an academic environment. I am a member of the senior school debating society, speaking multiple times on issues that interest me. At my previous school I started the 'Digital Art Club' teaching lower years basic photography techniques including correct editing and layering.

Motivated, committed and ambitious, I would relish the opportunity to read Computer Science to further my understanding of the subject, as well as satisfy my academic curiosity.