**Edmund Goodman – CV**

I have recently finished attending the Perse School's sixth form with an academic scholarship, where I studied Maths, Further Maths, Physics, Computer Science. I have achieved GCSEs with the grades:

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| * Biology - 9 * Chemistry – A\* * Maths - 9 * Physics - 9 | * Computer Science – A\* * Design and Technology – A\* * Music – A\* (taken a year early) | * English Language – 9 * English Literature - 8 * French – A\* * History – A\* |

Furthermore, I have also achieved an A grade (the highest possible as there are no A\*s) Free-Standing Mathematics Qualification, and an A\* grade Higher Project Qualification addressing computer security protocols. I currently have offers to study Computer Science at Durham, St Andrews, and Warwick Universities.

I am fluent in Python, can write in JavaScript with jQuery, PHP, HTML, CSS, SQL, BASIC, and Bash, and am also currently learning C, C++, and Haskell. I have completed various programming projects (source code at <https://github.com/EdmundGoodman>), such as:

an implementation of Conway’s game of life, Markov chains to randomly generate human readable text, a first principles neural network, a minimax algorithm with alpha-beta pruning, and a genetic algorithm all to play abstract games, and programs to optimally play board games, such as hangman, boggle, and probe. Alongside these programming projects, I also enjoy practical projects, for example: I built a six-axis robot arm for my GCSE technology coursework, and I led the software aspect of a school "Engineering Education Scheme" entry, where we built an autonomous tennis ball collecting robot, identifying balls from webcam images, and interfacing with motors collect them, and received gold awards from both CREST and Industrial Cadets. As a result of this I have experience in hardware control and computer vision, and learned the importance of systematic, thorough testing, and the careful consideration of edge cases. This set of skills is complemented by my interest in cyber security. I have competed in a national cyber security competition (<https://joincyberdiscovery.com>) - both years making it to the final stage, a residential camp for high-achieving competitors. In the first year, of 23,000 competitors, I was one of 170 selected. Last year, of 30,000, I was one of 180 selected to take a week-long course - in my case “SANS 504 - incident management and hacking tools”, and passed its associated GIAC examination, in the youngest cohort ever to do so.

I was awarded 1st place in the Caius college engineering essay contest, with an entry titled "Powering the UK's electricity supply - distributed systems to enhance the viability of renewable power". I attained a gold award for the AS physics challenge, and a commendation for the A2 physics Olympiad, after being put forward to take it a year early. I have also received a distinction in the "Bebras Computational Thinking Challenge Senior Category". Participating in these competitions has improved my logical reasoning, and ability to work under pressure. I play the trumpet to a Grade 8 standard, play in a brass ensemble that was a finalist in a national chamber music competition, and sing as a bass to a Grade 7 standard in school choirs. I was head chorister of Jesus College Choir, recording three CDs and going on three international tours, and am a Sergeant in my school CCF section. Both roles have given me strong leadership abilities, which I developed by completing the highly competitive RAF Air Cadet Leadership Course, which only around 240 cadets from around the country graduate from each year. Finally, I took a two-week work experience placement at “Argon Design”, where I refactored an information display board, increasing its efficiency and readability.