Harvey Donnelly

Computer Science Student

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Personal Profile

Conscientious student aspiring to become a leader in technology.

Developed an advanced software engineering skillset through extracurricular work, inclusive of award-winning research and exceptional industry experience. A demonstrated leader, passionate about theoretical computer science, mathematics and analytic philosophy. Dedicated to pursuing new and innovative solutions to the major problems facing our global society.

Education

Wellington College — **October 2014 - Present**
18 Carolan Road, Belfast — **Year 14 Student**

GCSE Qualifications (highest possible grade in all subjects)
Awarded August 2019

- Further Mathematics: A*
- Mathematics: A* (full marks)
- Biology: A*
- Business Studies: A*
- English Language: A*
- English Literature: A*
- Computer Science: 9 (equivalent to A*)
- Physics: A*
- Chemistry: A*

AS-Level Qualifications (highest possible grade in all subjects)
Awarded August 2020/2019

- Computer Science: A (completed August 2019)
- Physics: A
- Mathematics: A
- Further Mathematics: A

A2-Level Qualifications
Awarded August 2021/2020

- Further Mathematics: A* (predicted)
- Mathematics: A* (predicted)
- Physics: A* (predicted)
- Computer Science: A (completed August 2020)

N.B. My A-Level Computer Science was completed a year early than typical and was entirely self-taught.

Academic Awards and Recognition

- Top in Year Group Overall at GCSE.
- Top in Year Group within 5 GCSE subjects, including Mathematics, English Language, Physics, Biology and Computer Science.
- Received the Reid Cup for Academic Excellence at College Prize Day in 2019.
- Currently ranked first within Year Group in terms of academic achievement.
- Four-times awarded Full-Honours within my college, including three for academia and one for volunteering and community impact.

Technical Experience and Research

Software Engineering Internship, Rakuten Blockchain Lab

After demonstrating my advanced programming skillset, I was selected for a paid internship at the Rakuten Blockchain Lab for two months in the summer of 2019. Working at the forefront of blockchain research, I gained first-hand knowledge of all aspects of software engineering including DevOps, testing, documentation and development. In my role, I was responsible for leading the early development of a cutting-edge software project, which was later integrated into one of the lab's key platforms. I personally planned the system architecture, created thorough design documentation and wrote all subsequent code. I was subsequently invited to return for another two-month internship in 2020, which was regrettably cancelled due to the COVID-19 pandemic.

Reference written by Fergal Downey, Vice-President of Engineering at the Rakuten Blockchain Lab

Contact: fergal.downey@rakuten.com

"Firstly, Harvey demonstrated a high level of professionalism in all his communication before, during and after his internships. We were delighted to have him join the team because of his general enthusiasm for technology, experience in programming and interest in blockchain technology. Harvey was able to add value to our team very quickly and impressed the other engineers with his comprehension of programming and the ability to quickly grasp the concepts that were new to him. He contributed to the initial development of a blockchain based project which has since become one of our main platforms. He worked on back end services written in java script as well as front end (user interface) components. I believe that Harvey is a very focused individual with a good vision of his career path as well as how to get there. An engineer and potential entrepreneur to watch out for in the future."

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Scientific Research Project, Modelling Electrochemical Cell Reactions

Motivated by the impending need for sustainable battery technologies, I independently developed a research project of the title 'Modelling Electrochemical Cell Reactions'. I studied the relevant theory and subsequently planned all aspects of the endeavour. I was responsible for engineering the mathematical modelling software, analysing the generated data and writing a comprehensive 10,000-word dissertation to document my findings. My results demonstrated the scope of efficient alternatives to Lithium-Ion battery variations while also cataloguing the general properties of hundreds of electrochemical cell configurations, notably in terms of capacity, efficiency and energy density.

Awards and Recognition:

- ***Overall Winner Award*** at Northern Ireland Big Bang Competition 2018
- ***First Place in Chemical, Physical and Mathematical Category*** at BT Young Scientist and Technology Exhibition 2018
- ***First Place Northern Irish Project*** at BT Young Scientist and Technology Exhibition 2018
- ***Queen's University Belfast Award for Mathematics*** at Northern Ireland Big Bang Competition 2018
- ***Royal Society of Chemistry Award*** at Northern Ireland Big Bang Competition 2018
- ***National Finalist Category Runner up*** for the UK National Big Bang Competition 2018

Leadership and Civic Engagement

Overall Winner, Rotary International Youth Leadership Development Competition

Following a comprehensive written application, I was selected as the sole nominee to represent Wellington College in this highly-competitive leadership programme. This involved a series of rigorous interviews which examined my extra-curricular portfolio, knowledge on geo-political affairs and my aptitude for leadership. I subsequently won the regional and final heats of this all-Ireland competition, qualifying as a Euroscola representative for Ireland.

Euroscola Representative for Ireland

As a representative for Ireland, I took part in an all-expenses-paid trip to the European Parliament in Strasbourg to debate resolutions on current affairs through both plenary and committee sessions. As the elected Rapporteur for the Committee for the Environment and Renewable Energy, I had the responsibility of presenting and answering questions on my committee's report centre-stage in the parliament chamber. Through this experience, I have greatly-developed and proven my aptitude for leadership, communication and team-working, as well as expediting my passions for politics and debating.

Managing Director/Co-founder of Social Enterprise, UK Young Enterprise Company Programme

My passion for grassroots activism inspired me to co-found a social enterprise called 'Copo Packaging', dedicated to tangibly addressing the issues of global sustainability within my local community. Encouraging local businesses to adopt compostable packaging, we sold custom-designed compostable takeaway coffee cups, hand-printed t-shirts and other merchandise, all featuring bold messaging calling for urgent climate action. As Managing Director, I led the company's operations, liaising with local businesses, presenting at trade shows and coordinating tasks within a large team of volunteers. I also organised a number of political demonstrations and local litter-picking events. In recognition of the company's positive community impact, we won the awards for 'Social Innovation', 'Learning and Development' and runner-up for 'Digital Presence' at the regional Company Programme competition and I was also invited to speak at the Northern Ireland Sustainable Business Conference (later cancelled due to COVID-19).

Deputy Head Boy/Vice-Chair of Student Council

At the end of Year 13, I was selected for the position of Deputy Head Boy in recognition of my consistent contribution to college life across all my years as a student. In this leadership role, I now serve as Vice-Chair of the Student Council and have been dedicated to serving as a proud ambassador for the college throughout this academic year.

Additional Extracurricular Activities

- ***100-Hour Millennium Volunteers Certificate*** awarded through the National Citizens Service
- ***Co-founder and Vice-President*** of the College Debating Society
- ***Secretary of the Social Democratic and Labour Party (SDLP) Belfast Youth Branch***
- ***Higher-Education Plus Programme*** involving a number of super-curricular lectures in Physics and Mathematics, including one held by a Cambridge University Professor (2020)
- ***Chosen to represent my College at the inter-school Mathematics Challenge*** (2019)