Harvey Williams
hw562.com

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Homerton College
Cambridge CB2 8PH

Education

University of Cambridge / Integrated Masters
Oct 2020 - June 2025

III: Mathematical physics and statistical computing
II : Physics, including Theoretical Physics 1, Theoretical Physics 2, Computing Project
IB: Physics, Maths
IA: Physics, Maths, Physiology, Materials Science

Self Study / A-level
April 2019 - July 2019

Biology (**A**)

The Blue School Sixth Form / A-level
Sept 2016 - July 2018, Wells (Somerset)

Mathematics (**A***), Further Mathematics (**A***), Chemistry (**A***), Physics (**A***)

Experience

Gurdon Institute/Cambridge Centre for Physical Biology / Researcher
Summer 2024

- Wrote a computer simulation of collective cell motion based on research papers
- Worked with minimal supervision, selecting Go as an appropriate programming language
- Highlighted several mathematical and algorithmic mistakes in the literature
- Analysed scaling of possible algorithms
- Argued for and implemented an improved approach (Delaunay Triangulation)
- Refactored existing code to improve clarity
- Advised a group at Oxford and presented to an international collaboration carrying out similar research

Cambridge Centre for Carbon Credits / Researcher
Summer 2023

- Produced a pipeline processing data from an SQL database into a geospatial format
- Optimised code around a library bug - reducing memory consumption from 16GB to ∼1GB
- Ensured the code is accessible via GitHub and well commented

Homerton College / Student Ambassador
Summer 2022

- Assisted in the college open day and ran tours throughout Summer

Cambridge Admissions Office / eCAMbassador
July 2021 - January 2022, Remote

- Mentored university applicants from disadvantaged backgrounds, sharing insight and providing feedback on personal statements

St Michael's Mount / Guide
July 2021 - September 2021, Cornwall

- In addition to my role guiding visitors, I completed a voluntary first-aid course and put it to use

Experience

Teamline / Year in Industry (YINI)
Aug 2019 - Aug 2020, Cambridge

- Wrote API based code in Python for a R&D project
- Automated visual testing with OpenCV-Python, using Linux tools to access hardware information
- Presented test results to other members of the team
- Raised a major concern directly with my manager, preventing flawed units being shipped to customers
- Organised a group entry into the Google Code Jam competition for all the interns/grads
- Completed the hardware section of Nand2Tetris, which has given me a basic understanding of computer architecture

The Blue School / Teaching Assistant (maths dept.)
Oct 2018 - April 2019, Wells (Somerset)

- Coordinated with teachers to support GCSE pupils in class
- Planned and delivered small group lessons

Wells Cathedral Catering / Catering Assistant
June 2016 - August 2018, Wells (Somerset)

- Part-time job during my A-levels

Volunteering & Awards

- Currently awarded a place on the Martingale PhD Navigator programme
- Currently offered a Martingale Masters Scholarship 2025-2026
- Selected to be Vice-Captain for University Challenge 2025, representing Homerton College
- Oxford UNIQ+ summer research scholarship 2024 — declined due to an alternative offer
- Martingale Scholarship 2024-2025 — declined as deferral was not possible
- Wrote and delivered a presentation to Oxbridge applicants at my former school
- Undergraduate year-rep for Part IB Physics, participating in committee meetings on undergraduate teaching. I highlighted the cohort's desire for worked examples to be used as an educational tool and this is now more widely being implemented
- Competed for Homerton College Boat Club
- Student of The Year at J. Burgess' Professional Martial Arts
- Volunteer at Glastonbury Festival
- I'm also a keen runner and find this helps me to de-stress and think more clearly. I recently ran in the Chariots of Fire relay race, placing 12th out of ~ 200 teams