

Personal Profile

A confident, highly motivated and hard-working individual with software and technical experience in a market-leading quantum technology company. First class Master of Physics and Bachelor of Science from the University of Leeds with the Whiddington Prize for highest grade overall. Looking for work in the fields of Physics and Technology, where I can apply my exemplary problem-solving and analytical skills.

Education and Qualifications

University of Leeds

Sep 2017 – Jul 2021

Final year – 1st (84%), highest classification average at graduation (“Whiddington Prize” winner)

Third year – 1st (85%), 99% in Advanced Quantum Mechanics etc

Second year – 1st (87%), highest achieving student in the Physics cohort (excl. Astrophysics and Theoretical)

First year – 1st (88%), highest grade (“Best First Year Student” winner)

Parrs Wood Sixth Form, Manchester

Sep 2014 – Jul 2016

A levels: Physics (A*), Mathematics (A*), Chemistry (A*), Psychology AS (A)

Parrs Wood High School, Manchester

Sep 2009 – Jul 2014

13 GCSEs A*- A, including Physics (A*), Maths (A*), Further Maths (A*), English Literature (A*), English Language (A*), Music (A*), Ancient History (A*), Psychology (A*), Statistics (A), German (A), PE (A), Chemistry (A), Biology (A)

Private piano and guitar lessons

2004 – 2014

Grade 8 in piano (spring 2013), Grade 7 in guitar (summer 2012)

Technical Experience

Toshiba Europe Ltd – System Development Engineer

Dec 2021 – present

- Responsible for testing, maintaining and experimentation on Quantum Key Distribution (QKD) systems.
- Primarily involved in maintenance of control and testing software (Python, C++, Bash), experimentation on the systems themselves, including electronic tests and optimising performance, and developing new ideas for automating tests and experiments.
- Part of a very high-level team from a wide range of backgrounds, involved in cutting edge quantum research as well as production of QKD transmitters/receivers for implementation in current infrastructure (e.g. BT, Deutsche Telekom).
- Main contribution has been automation software (mostly Python based), designed to speed up as well as automate the testing and optimisation of QKD systems. **This software is currently the main method of testing and has enabled a broader understanding of the operation of the QKD systems, even by colleagues without technical degrees.**
- Highly rewarding work, especially with regards to gaining essential skills for the science and technology sectors.

Skills, Hobbies and Interests

Python 3.x (and programming in general)

- Utilised Python on a daily basis during work on QKD systems at Toshiba Europe Ltd. Primary uses include interfacing with Linux-based servers, data storage and analysis, internal testing infrastructure (including Plotly Dash for front-end web development) and interfacing with in-house modules/daemons.
- Also utilised Python as a computational tool during a large portion of my Physics degree.
- Well-versed in NumPy, Matplotlib, SciPy etc as well as mathematical methods such as numerical integration, curve fitting, data processing and more.
- Use Python in my spare time to continue some of the data analysis I was involved with in my Master’s project– a dynamic light scattering (DLS) study of polymer hydrogels. A few projects in progress, e.g., a scientific calculator, a brickbreaker-style game, mathematical problem solving (<https://projecteuler.net>) etc. Please see my GitHub profile here: <https://github.com/Henryp1997>.
- Interested in learning new programming languages. Continued experimentation with Python, and recent exploration of C++.

Computer technology/software and hardware

- Good understanding of software from operating systems (especially Android, Windows and Linux) to applica-

tions/programs. Frequently tinker with computers, from building to repairing.

Bash and Unix terminal

- Occasionally program in Bash for software ran directly on Linux environments, or to forego unnecessary clutter by using Python.
- Familiar with the unix terminal; navigating, creating and modifying directories, monitoring system performance, interfacing with other servers over ssh (e.g. rsync, scp) and much more.

Mathematical/analytical

- Exceptional problem solver. Dedicated to finding solutions to a range of mathematical and situational problems, highly interested in optimisation of methods.
- Enjoy recreational mathematics and problem solving.

Scientific writing

- Excelled in all written tasks, e.g., 10,000-word research project report, general lab reports, essays concerning novel topics, justification of answers in exams/courseworks/in person.
- Regular reader of scientific content, including discoveries, mathematical proofs and interesting articles.

Background knowledge/recreational research

- Built up a considerable amount of knowledge from individual research in a range of areas (not just limited to STEM, e.g., music theory).
- Utilised knowledge in all stages of education to improve understanding of examined topics.

Music

- I have performed piano and guitar at a range of venues; able to learn a new piece from sheet music quickly.
- Amateur understanding of music theory, application of said understanding to improvised piano playing/composition.
- Self-taught in piano beyond grade 8 (completed 2014), frequent player and listener.

Sport

- Football player for club and school for 14 years. Captain of football club for four years – consistent team-leading abilities, even before I was made captain.
- Tennis lessons for 7 years. Above average player, one or two sessions a week.
- Above average squash player, one session a week.
- Running - ran 100s of kilometers since starting in April 2022, frequently engage in high effort as well as long distance aerobic-fitness-building runs.
- Cycling - cycled 100s of kilometers since starting in March 2023. Long distance rides every week, interested in maintenance of bikes too.

Electronics

- Amateur electronics repairing, e.g., power circuits, phones, computers. Creating circuits, e.g., power banks, USB adapters etc.
- Interested in DIY electronics projects, such as those utilising Raspberry Pi systems.

Other Experience

Albert's Restaurant and Bar - Bartender

Sep 2016 – Jul 2017

- Challenging work environment - I was exceptionally hard-working and dedicated to many roles as bartender.
- Gained invaluable customer-service experience and undertook managerial roles such as stock take, audit, deliveries and management of co-workers.
- Considered a crucial part of the team not just on the bar, but in the restaurant – often viewed as team leader.

Manchester Royal Infirmary - Volunteer Service

Oct 2014 – Jun 2015

- Using initiative to help members of the public.
- Working with potentially distressed and panicked individuals.
- Built a great rapport with hospital staff, co-workers and the public.

Manchester Royal Infirmary - Anaesthesia, shadowing

Sep 2015 – Oct 2015

- Observed multiple surgical procedures, many opportunities to interact with patients and staff.
- Quickly learned how to operate monitoring equipment, given drug administration responsibilities (under supervision).
- Viewed as a trustworthy, friendly and competent individual by staff and patients alike.