Dhruv Sharma

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Education

- **University of Cambridge** — Cambridge, United Kingdom
  MPhil in Scientific Computing (High Performance Computing) — *Oct 2025 – Sep 2026*
  Awarded a merit-based scholarship covering full tuition by the Department of Physics.
  High Performance Computing stream, specialising in parallel programming, CUDA GPU acceleration, and C++ for large-scale computing.

- **University College London (UCL)** — London, United Kingdom
  BSc Chemistry with Mathematics; Grade: First-Class Honours — *Sep 2022 - Jun 2025*
  Courses: *Algorithms and Data Structures, Scientific Programming, Computational Chemistry, Mathematics for Physics and Astronomy*
  Activities and Societies: *Quant Society, Asset Management Society, Scuba Diving Society, Surfing Society, Brazilian Jiu-Jitsu Society*

Experience

- **Cisco ThousandEyes** — London, UK
  Software Engineer Intern — *Jun 2025 – Present*
  - Developed an advanced indoor navigation iOS app using ARKit and built an interactive heatmap with SwiftUI.
  - Developed a Wi-Fi heatmap feature from concept to identify network deadzones and guide optimal booster placement.
  - Feature prototype was presented to 1000+ employees at company-wide kickoff, earning recognition from leadership.
  - Engineered core logic with greedy and simulated annealing algorithms, and multithreading for background calculations.
  - Integrated C++ network tests to Android & iOS apps to measure service speeds from user devices through their router.
  - Worked with embedded (C++) and mobile (Kotlin/Swift) teams, fixing complex C++ and CMake build errors.
  - Built a cross-platform CMake/Bash pipeline to compile core C++ libs (OpenSSL, cURL) for Android & iOS.

- **Microsoft** — Edinburgh, United Kingdom
  Software Engineer Intern, Azure for Operators — *Jul 2024 - Sep 2024*
  - Used Ceph, an open-source package to manage syncing data between voicemail servers scaling to millions of users.
  - Wrote robust, error-handled code to allow for an outage-less upgrade of servers for customers with five nines uptime.
  - Ensured code could easily be debugged with well-written documentation and logs for support teams to aid customers.
  - Deployed Linux VMs, automated processes with bash scripts, monitored and managed network services/APIs.
  - Gained skills in working with open source communities, debugging poorly documented functions in large codebases.
  - Replaced Ansible with Python scripts, boosting command speed by up to 1000x, enhancing support team efficiency.
  - Developed unit-tested Java code in a large codebase, managing endpoint selection for requests in a multithreaded server.
  - Developed a Microsoft 365 Copilot extension for researchers to accurately discover papers via the Semantic Scholar API.

- **Sainsbury Wellcome Centre and Gatsby Computational Neuroscience Unit** — London, United Kingdom
  Research Software Engineer, Neuroinformatics Unit — *Sep 2023 - Mar 2024*
  - Helped develop Movement, an open-source Python package for the kinematic analysis of animal body movements.
  - Wrote high-quality, object-oriented, unit-tested code for the I/O of various data formats and underwent code reviews.
  - Utilized strong CI/CD practices to facilitate open-source collaboration and published the code for open-source use.
  - Published as a coauthor in the proceedings of Measuring Behavior 2024: https://doi.org/10.6084/m9.figshare.25897855.

- **S-Cube** — Imperial College London
  Software Developer Intern — *Jun 2023 - Aug 2023*
  - Applied autodifferentiation to accurately compute gradients of various cost functions for gradient descent.
  - Utilized Fourier transforms with NumPy library to perform signal processing on seismic data.
  - Vectorised data while calculating the zero-lag cross-correlation of seismic data to improve compute time.
  - Automated data extraction from documents using Python with libraries Pandas, Itables and AWS CLI.
  - Leveraged fine-tuned GPT models and prompt engineering techniques to enable natural language data extraction.
  - Developed chatbots with LLMs, Flask and PostgreSQL, integrated intent detection for API data retrieval.
  - Deployed live web applications with AWS EC2, AWS ELB, Docker, Kubernetes, Nginx, and Git for version control.

Additional Information

- **Coding Languages:** Python, C++, Kotlin, Swift, Java, Bash, SQL, R, C and LaTeX.
- **Interests:** Scuba Diving (PADI Certified Advanced Open Water Diver), Surfing, Brazilian Jiu-Jitsu, Cycling
- **Spring Weeks:** G-Research Coding Challenge (Winning Team), Susquehanna International Group, WTW, Schroders.