Dhruv Sharma

Github: https://github.com/DhruvSkyy
LinkedIn: https://www.linkedin.com/in/dhruvsharma-ucl/

Email: dhruv.sharma.22@ucl.ac.uk
Mobile: +44-7480-476893
Website: https://www.dhruvs.com/

EDUCATION

University College London (UCL) — London, United Kingdom
BSc Chemistry with Mathematics; First-Year Grade: First-Class Honours, 78% — *Sep 2022 - Jun 2025*
Courses: *Applied Mathematics 1, Mathematics for Science 1 & 2, Physical Chemistry*
Activities and Societies: *Quant Society, Asset Management Society, ESG Society, Economics & Finance Society*

ACS Hillingdon International School — London, United Kingdom
International Baccalaureate; Grade: 39/45 — *Aug 2018 - May 2022*
Higher Levels: *Mathematics Analysis and Approaches (7/7), Chemistry (7/7), Biology (6/7), Economics (6/7)*
Activities and Societies: *Model United Nations, Student Council, Cross Country*

EXPERIENCE

S-Cube — Imperial College London
Software Developer Intern — *Jun 2023 - Current*
- 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, Helm, and Git for version control.

Schroders — London, United Kingdom
Spring Intern — *April 2023*
- Acquired knowledge of financial markets, investable assets and the interpersonal skills required in asset management.

Susquehanna International Group, LLP (SIG) — London, United Kingdom
Discovery Day — *March 2023*
- Received an overview of trading at SIG, participated in a market-making game to manage risk and adapt bid-ask spreads.

PROJECTS

Spatiotemporal Analysis and Prediction of Crime in Philadelphia
Citadel Europe Regional Datathon — *April 2023*
- Worked with four teammates to conduct a spatiotemporal analysis of traffic stops and crime in Philadelphia, using R to determine police efficiency in locating crime hotspots.
- Trained an artificial neural network from tenserflow.keras to predict the type and time of a crime in such crime hotspots.
- Allows for effective crime prevention measures, without the ethical issue of predictive policing targeting certain locations.

Deep Learning Model to Measure User Attention
Hackathon Submission — *March 2023*
- Worked in a team of four as part of a 24-hour hackathon to develop an application to analyse the attention of users during video calls and plot a graph displaying how attention varied over the call.
- Trained a deep learning model with TensorFlow to measure user attention. Created a full-stack web application using Flask, with Python to process uploaded videos and plot a graph using matplotlib.

Impact of London's Cycling Infrastructure
Independent Research Project — *Nov 2020 - Jan 2022*
- Wrote a 4000-word research paper, analysing the impact new cycle lanes had on the demand for Santander Cycles.
- Processed 15GB of data using SQL, Python, and Pandas to visualize the positive effect of cycle lanes on cycling demand.
- Compared statistical and ML-based time series models, performed STL Decomposition to assess cycling demand changes.

EXTRA-CURRICULARS

UCL Quant Society — London, United Kingdom
Risk Management Research Group — *Aug 2022 - Dec 2022*
- Collaborated with team members to produce a weekly journal of published research in risk management.

Model United Nations (MUN) — London, United Kingdom
Delegate — *Aug 2018 - Jun 2021*
- Attended THIMUN, one of the world's largest MUN conferences in the Hague, representing South Sudan and Iran.
- Introduced blockchain technology at Alconbury MUN, resulting in the passing of my resolution by majority vote.

ADDITIONAL INFORMATION

- **Languages:** English (Fluent), Hindi (Native)
- **Coding Languages:** Proficient in Python and SQL, experienced in R, HTML, CSS, and LaTeX
- **Interests:** Scuba Diving (PADI Certified Advanced Open Water Diver), Cross Country.