Youyou Yu

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EDUCATION

Imperial College London — London, UK
Bachelor of Science in Physics - Currently achieving a 2:1 — *Sep. 2024 – Jun. 2027*

WORK EXPERIENCE

Tutor — May 2022 – Present
Minerva Tutors and Bonas Macfarlane — *London, UK*

- Prepared students for exams through active recall exercises and analytical reasoning.
- Clear communication and interpersonal skills developed between both tutor and client to establish past performances and future improvements both verbally and in writing

Sky finance insight event — August 2025
Sky Headquarters, Grant Way, Isleworth — *Middlesex, UK*

- Gained valuable exposure to the company's financial operations, insights into career pathways within finance, and a clearer understanding of the skills and attributes required to succeed in the industry.

PROJECTS

Radio telescope construction | *Python* — Sep. 2023 – Dec. 2025

- Constructed a 1.8m diameter radio telescope using aluminium beams and chicken wire to read the radio waves into usable data.
- Built a base using wood and other materials to be able to rotate the telescope along both the azimuthal and polar directions
- Visualised radio data from the Hydrogen Line at 1440MHz in the Milky Way to map particularly dark areas, where visible light telescopes would fail.
- Wrote a statistical program and used real-world data to predict the graph shape that would be expected in Python to compare the accuracy of my telescope and how to further improve its design and detection ability.

Hubble constant approximation | *Python* — Nov. 2024 – Jan. 2025

- Analysed raw data from the recessional velocities of galaxies and applied fit functions to plot a definitive graph to find an approximation of Hubble's constant.
- Implemented a program function to ignore any faulty instrument responses through faults, such as atmospheric interference.
- Continuously improved model and data-scraping method to simulate imperfect ability to calculate Hubble's constant.

Verification of the quantum nature of light | *Python* — Mar. 2025 – Jun. 2025

- Proposed idea to verify whether a single incident photon on a beam-splitter would only take one of two available paths.
- Constructed a circuit consisting of a single photon source (pulsed LED) with collimators and neutral density filters to reduce photon count to measurable quantities.
- Used silicon avalanche photodiodes connected to an oscilloscope to verify photon readings being incident only on one device for each.
- Conducted statistical analysis using Python to predict proportion of photons expected at each photodetector based on estimated loss variables.

TECHNICAL SKILLS

Coding Languages: Python, SQL
Developer Tools: Excel, VS Code, Visual Studio, Spyder
Languages: Fluency in both English and Mandarin, GCSE level French
Communication and leadership skills: Represented Imperial College at international debating competitions at Copenhagen.

INTERESTS

Optics and Quantum Physics modelling
Quiz and Debating societies
Archery and Bouldering