Joshua L. Bostock

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SUMMARY

Astrophysics undergraduate student at UCL with a projected First Class standing and experience in observational and computational astronomy. Highly adaptable, with strong Python programming skills, cross-cultural academic experience, and a passion for data-driven problem solving. Seeking to apply analytical and collaborative strengths in scientific research or data science roles.

EDUCATION

University College London (UCL) London, UK
MSci Astrophysics *2022-2026 (Expected)*
- Current mark: First Class
- Modules include: **Galaxy Dynamics, Formation & Evolution**; **Statistical Analysis of Data**; **Practical Astrophysics & Computing**; **Astrophysical Processes**; **Planetary Science**; Quantum Physics; Astrobiology; Statistical Physics of Matter; Thermal Physics; Waves; Electricity & Magnetism; Classical Mechanics; Mathematical Methods I, II, & III; Developing Effective Communication
- Master's project (ongoing): Stellar Kinematics in the Milky Way

University of Washington Seattle, Washington, USA
Study Abroad placement as part of competitive university-wide exchange *2024-2025*
- GPA: 3.82 on 4.0 scale
- Courses include: **Astronomical Data Analysis**; **Astrostatistics & Machine Learning**; **High-Energy Astrophysics**; Exoplanets; Stellar Observations & Theory; Cosmology; Science of Climate; Pacific Indigenous Astrophysics; Geology of the Northwest
- Member of the Astronomy Undergraduate Engineering Group, maintaining Manastash Ridge Observatory

The Sixth Form College Farnborough Farnborough, Hampshire, UK
A-levels – A in Physics, Chemistry, Maths & Further Maths* *2020-2022*
- A* in Extended Project Qualification: Understanding the (im)possibility of Dyson Spheres
- Silver in Chemistry Olympiad

The Winston Churchill School Woking, Surrey, UK
GCSEs – 9 at grade 9 including Maths & English; 4 at grades 6-8 *2015-2020*

PROJECTS

Understanding Insolation on Earth UW – *Apr-May 2025*
- Developed a public-facing educational tool in Python, enabling users to visualise insolation variation on Earth throughout the year, aimed at improving public understanding of climate systems
- Integrated Matplotlib and ipywidgets for dynamic educational visualisations and intuitive user interaction

Exoplanet Transit Detection UW – *Apr-Jun 2025*
- Led a student research group in planning and observing exoplanet transits remotely at Apache Point Observatory
- Managed observing strategy and data collection under challenging weather conditions
- Developed full data-reduction including calibration, photometry, and light curve modelling using Python

WORK EXPERIENCE

Johnson Matthey Online
Virtual Work Experience Programme *July 2021*
- Participated in workshops on sustainability, innovation, and decision-making in the science and engineering sectors
- Led a cross-functional team to design a net-zero energy house, presenting solutions to a panel of company scientists and engineers
- Gained insight into the role of data-driven analysis in sustainable manufacturing and materials science

Marmalade Game Studio London, UK
Associate Producer *July 2019*
- Assisted in testing and evaluating gameplay mechanics and user interface designs across multiple platforms
- Logged and categorised bugs and feedback using internal tracking tools, contributing to quality assurance and product refinement
- Joined sprint planning meetings, learning agile development workflows and version control practices

SKILLS

- **Programming & Data Analysis** – Proficient in Python (NumPy, Matplotlib, Astropy, pandas), Jupyter, and DS9; experienced in data visualisation, statistical modelling, and image processing
- **Scientific Communication** – Delivered technical presentations at UCL Observatory, reporting on astronomical observations and lab analyses
- **Collaboration & Teamwork** – Contributed to multi-person research projects, such as observing proposals and outreach planning between UCL and UW
- **Organisation** – Managed multiple academic and extracurricular commitments with consistent First Class performance
- **Technical Tools** – Familiar with LaTeX, GIMP, FITS file handling, Microsoft Office, and Google Workspace
- **Adaptability** – Successfully transitioned to a different academic system during exchange at the University of Washington, excelling in advanced coursework

HOBBIES & INTERESTS

- **Hiking** – Enjoy exploring new landscapes through day hikes across the UK and abroad, developing resilience and appreciation for the natural world
- **Travel** – Passionate about cultural exchange and adapting to unfamiliar environments, which has enriched my global perspective during academic and personal journeys
- **Photography** – Keen amateur with a focus on astrophotography and long-exposure techniques; proficient in processing RAW and FITS files; featured on UCL's social media channels