Ewan Chamberlain

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Education

University of Cambridge, Robinson College	10/2019 – 07/2023
MSci in Astrophysics	*1st Class with Distinction*
BA (Hons) in Natural Sciences	*1st Class*
King Edward VI School	09/2012 – 07/2019
A-Level Mathematics, Further Mathematics, Physics, Chemistry	*A*A*A*A**

Projects

Powerful AGN outflows at cosmic noon can solve the S8 tension? 10/2022 – 05/2023

Master's Project
- Explored powerful AGN outflows from supermassive black holes to see if these can help solve the S_8 tension, a prominent problem in cosmology.
- Reviewing literature around baryonic effects on the matter power spectrum.
- Running simulations and analysing and transforming simulation data of over 100 million particles in Python on a large computer cluster.
- Presented my findings in a 20 minute presentation and in a 30 page report.

CATAM II 10/2021 – 05/2022

Part II Astrophysics Computational Projects
- Completed two independent computational projects in MATLAB about different areas in Astrophysics.
- **Cosmological Distances**: Computed distances as functions of redshift in different cosmologies, and comoving volumes of 114 quasars.
- **Accretion Disks**: Evolved an accretion disk orbiting a massive object for 10 million time steps.

Introduction to Computing 01/2021 – 03/2021

Part IB Physics B Course
- Self-lead C++ course, learning through weekly projects. Projects of note are:
- Plotted the trajectory of different hyperbolic orbits and created a movie of the orbits.
- Calculated the evolution of 100 particles compressed by a piston.

Experience

Webmaster 06/2022 – 06/2023

Robinson College Video Game Society
- Updated society website with HTML by connecting to a remote server with SSH.
- Built and maintained multiplayer servers using Linux and Bash.
- Worked with committee to organise weekly society meetings.

Finance Assistant Intermittent 07/2019 – 09/2022

Calor Gas *Warwick, United Kingdom*
- Performing a range of tasks in the Financial and Accounts Payable teams.
- Processed an average of over 100 invoices each day with DocuSphere, and tank transfers with EnterpriseOne.

Treasurer 10/2021 – 03/2022

Cambridge University Karate Club
- Maintained treasury and accounts for the club using automated Excel spreadsheets.
- Implemented a Python script to automate creating invoices for ∼100 members, saving over 2 hours per term.
- Presented a summary of the accounts and a forecast into the nearby future at the Annual General Meeting.

Skills and Awards

Technologies: Linux, Jupyter, Microsoft Office (Word, Excel, PowerPoint), SSH, HPC, Git
Programming Languages: Python (Numpy, Matplotlib, Pandas), C++, MATLAB, Bash, LaTeX
Foreign Languages: Spanish (intermediate, GCSE A*)
Public Speaking: LAMBDA Gold, Grade 8
Robinson College Prize and College Scholarship.

Other Interests

Karate: 2nd Dan black belt, competed for University team at national competitions. Instructor for the University club.
Piano: Grade 3, Trinity College