

SAM SEIFI

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Education

- BSc - Physics with Astrophysics and Cosmology**, King's College London Sept 2025 - exp. 2028
- **Year 1 average: 64%** — **Computing 91%**, Laboratory 72%, Astrophysics 67%, Mathematics 65%
- General Certificate of Education (GCE A-level)**, The Compton Sixth Form Sept 2023 - Aug 2025
- **Achived Grades: ABB** | Mathematics, Physics and Computer Science

Personal Projects — Additional Works: svsam.com

[EvoXRB: Genetic Algorithms, and a Very Real Black Hole](#)

- Building a Python, NICER-inspired X-ray experiment around MAXI J1820+070, then finding out whether natural selection is actually any good at fitting spectra. The project ended up forcing me to learn far more than the algorithm. [Read more at the blog post here](#).

[Exoplanet orbital temperatures and modelling eccentricity using training data](#)

- Python simulation and analysis pipeline using NASA Exoplanet Archive data to replicate exoplanet orbital dynamics and estimate orbital thermal variation.
Generated orbital-temperature profiles across a full orbital period, with each exoplanet selectable for simulation and comparison.

[earthaccess](#)

- Contributor the the open source python library Earthaccess. Earthaccess is a python library to search for, and download or stream NASA Earth science data with just a few lines of code. Contributed to the documentation.

[ASCII Art Generator](#)

- Cross-platform Rust desktop and browser image-to-text editor with luminance-based conversion, colour controls, dithering and background processing.
Supports .txt files and, 24-bit ANSI-colour when you want to keep the image's colour.

[Minesweeper AI Solver](#)

- Constraint-based solver that derives safe and mine cells, enumerates valid board states, estimates mine probabilities, auto-solves deterministic moves and recognises unavoidable 50/50 guesses.

[Terraria mod— Daybreak class extension](#)

- First time making a mod for Terraria and inspired after the ceasing of development for the calamity mod. Added a ten-weapon progression of thrown, Daybreak-style spears. Some spears can lodge in an enemy, deal fixed damage over time, and detonate when it expires. Later weapons add themed bursts, debuffs, and secondary projectiles.

Publications

[EvoXRB: From Transparent Synthetic Optimisation to a Preregistered Test of Disk–Corona/QPO Coupling in MAXI J1820+070](#) [Author: Sam Seifi](#)

Work Experience

The Deli Downstairs

Kitchen Porter — Part-time

London, UK

Jul 2026 – Present

- Supported kitchen operations during high-volume service periods, maintaining clean, organised and hygienic preparation and equipment areas.

National Student Space Conference (NSSC)

Volunteer

London, UK

Feb 2026

- Volunteered for the conference hosted at King's College London, representing my space society for the weekend of events, and helping coordinating events and talks for speakers presenting about their expertise.

MedMart Borehamwood

Pharmacist Assistant — Part-time

London, UK

Jul 2023 – Sept 2024

- Sorted and handled medication for elderly patients while coordinating with colleagues to complete sensitive, time-critical tasks accurately.

LRC - The Compton School

Librarian - Voluntary

London, UK

Oct 2020 – June 2023

- Assisted with library organisation and rentals, student enquiries and maintaining an orderly learning environment.

Technologies

Skills: Python, Rust, C#, JS, HTML/CSS, SQL, Proficient in Linux systems, LaTeX, Pandas, API, Git, Astroquery, WebAssembly, Jupyter, Blender

Laboratory: Oscilloscope, Function Generator, Digital Multimeter