Alex Goater, PhD

Software Developer & Creative Problem Solver

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Analytical thinker with a PhD in Astrophysics, transitioning into creative problem-solving roles in tech and design. Skilled in breaking down complex systems, iterating on feedback, and collaborating effectively across multiple disciplines. Passionate about applying critical thinking to engage with design challenges. Active League of Legends and TFT community member with a deep understanding of player experience and game systems.

Technical Skills

- Python
- JavaScript
- HTML/CSS
- React
- Node.js
- Bash
- VS Code
- Git/GitHub

Key Projects

Galaxy Morphology Analysis Toolkit

Python • Data Analysis • Algorithm Design

Comprehensive Python toolkit using Bayesian statistical methods to analyse galaxy morphology. Led to first-author publication in top-tier journal.

Life Tracking Application (bigtable)

System Design • User Research • User Experience

Real-time multiplayer app solving life tracking across gaming tables with instant sync for up to 6 players.

Personal Portfolio Website

Visual Communication • Creative Development

Dynamic showcase built from the ground up with vanilla technologies, prioritising user experience and clean development practices.

Professional Experience

Digital Acceleration Internship
McAndrew Martin Ltd

Jan 2024 - June 2024

Improved technological infrastructure using Python and Microsoft Power for data-driven insights. Cut software costs by designing and delivering an in-house 'building survey' app on a strict timeline. Led development from concept to deployment, collaborating across departments to ensure seamless integration.

Education

PhD in Astrophysics
University of Surrey

Sep 2020 - Dec 2024

Master of Physics
First Class with Honours
University of Portsmouth

Sep 2016 - Jun 2020

Awards & Recognition

Laura Bassi Scholarship: Won funding from the international Laura Bassi Scholarship, a prestigious grant only awarded to those with the most novel research in neglected topics of study.

Conference Funding: Won competitive funding to create and host an astrophysics conference, bringing together and connecting many different research disciplines.

PhD Scholarship: Won funding from the highly competitive Doctoral College Studentship Award to complete my PhD at University of Surrey.