Alex Goater, PhD

Software Developer & Creative Problem Solver

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Software developer with a PhD in Astrophysics. Passionate about applying analytical thinking and advanced problem-solving skills to create scalable solutions. Experienced in Python, HTML/CSS, JavaScript, Node.js and React Native, with a demonstrated ability to architect utility applications and design efficient algorithms. Adept at breaking down complex technical challenges, iterating based on user feedback, and collaborating effectively across teams.

Technical Skills

Python | JavaScript | HTML/CSS | React Native | 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 a top-tier journal.

Life Tracking Application (bigtable)

React Native • Node.js • System Design

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

Personal Portfolio Website

JavaScript • HTML/CSS • 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

Sep 2020 - Dec 2024

University of Surrey

Master of Physics

Sep 2016 - Jun 2020

First Class with Honours

University of Portsmouth

Awards & Recognition

Laura Bassi Scholarship: Received the international Laura Bassi Scholarship, a prestigious grant awarded to those with groundbreaking research in underexplored fields of study.

Conference Funding: Secured competitive funding to organize and host an astrophysics conference, connecting researchers from multiple disciplines.

PhD Scholarship: Awarded the highly competitive Doctoral College Studentship to complete my PhD at University of Surrey.