

# Alex Goater, PhD

## Software Developer & Creative Problem Solver

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Software developer with a PhD in Astrophysics. Passionate about employing analytical rigor and advanced problem-solving skills to create scalable technical solutions. Experienced in Python, HTML/CSS, JavaScript, Node.js and React Native, with a proven record of architecting data-driven applications and designing efficient algorithms. Adept in breaking down complex technical challenges, iterating based on user feedback, and collaborating effectively across teams.

## 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.

## 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 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.

## 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.