

Harry Baines

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SUMMARY

Software Engineer with experience delivering scalable, accessible applications and robust production systems across diverse technology stacks. Skilled collaborator in Agile teams, with strengths in stakeholder engagement, mentoring, and translating business needs into technical solutions.

SKILLS

Programming Languages: Proficient in Python, JavaScript, TypeScript, SQL, and Golang for developing scalable, maintainable applications across front-end and back-end systems. Strong focus on writing clean, efficient code and applying best practices in software design and testing.

Frameworks & Libraries: Extensive experience building modern web applications with React, Vite, and Next.js, including developing reusable components and scalable front-end architectures. Skilled in back-end development with Node.js, Express.js, Django, Flask, and FastAPI, implementing task queues with Celery, automating tests with Selenium, and crafting responsive UIs using Tailwind CSS.

Databases: Hands-on experience with relational (SQL) and NoSQL databases, including PostgreSQL, MySQL, MariaDB, Redis, SQLite, Supabase, and Firebase. Proficient in designing efficient data models, optimising queries, managing database migrations with Prisma and Alembic, and ensuring data consistency and performance in production environments.

Cloud Platforms & Infrastructure: Experience deploying and managing applications on AWS, Heroku, Fly.io, and Vercel. Proficient in containerisation with Docker and applying Infrastructure-as-Code principles for streamlined deployments. Skilled in leveraging cloud services for scalability, availability, and cost optimisation.

DevOps & CI/CD Automation: Proficient in building and maintaining CI/CD pipelines to support reliable software delivery and DevOps automation. Experienced with GitHub Actions, Docker workflows, and best practices in version control (Git, GitHub), ensuring smooth integration and deployment processes across environments.

Agile Methodologies & Collaboration: Experienced working in cross-functional teams using Agile methodologies, including Scrum and Kanban frameworks. Skilled in collaborating with stakeholders, participating in team ceremonies, and driving continuous improvement initiatives. Passionate about mentoring early-career engineers and guiding student projects through technical coaching and code reviews.

EXPERIENCE

Full-Stack Software Engineer

Cassidy and Ashton Architects

June 2022 – Present, Preston, UK

- Designed, developed, and deployed a bespoke Practice Management System using the PERN stack (PostgreSQL, Express.js, React, Node.js), delivering end-to-end solutions for time tracking, project resourcing, and operational data management.
- Developed and integrated business-critical functions such as cash flow forecasting, expense management, holiday requests, performance reviews, and client portals, significantly improving internal efficiency and client service delivery.
- Automated timesheet workflows for 80+ employees, eliminating manual processes and saving over 20 hours per week in administrative overhead while enhancing data accuracy and operational visibility.
- Collaborated with stakeholders to define product requirements and translate business needs into scalable technical solutions, delivering a seamless user experience and robust backend architecture aligned with long-term product vision.
- Engineered data aggregation and pivot table generation in PostgreSQL to summarise total hours across 80+ employees, streamlining reporting workflows and providing leadership with actionable insights for project and resource management.
- Developed data visualizations and interactive dashboards for 13K+ active projects, providing directors with real-time insights on profitability, resource utilization, and staff performance to support strategic decision-making.
- Optimized deployment infrastructure by migrating from Heroku to Fly.io with a Docker-based solution, achieving a 90% cost reduction, streamlining CI/CD pipelines, and accelerating feature deployment cycles.

Software Engineer / Data Scientist

Yordas Digital

October 2020 – June 2022, Lancaster, UK

- Developed a full-stack application with Django to support regulatory experts in authoring Safety Data Sheets (SDS), reducing authoring time by over 50% through workflow automation and improved data access.
- Created Python, Flask, and FastAPI template repositories following best practices and static analysis tools, accelerating development workflows and improving code quality across multiple projects.
- Automated regulatory data scraping using Selenium and Celery, saving 20+ hours per week by eliminating manual data checks and ensuring up-to-date compliance information.
- Led code reviews and mentored junior developers during MVP development, fostering a collaborative team culture and maintaining high code quality standards.
- Supervised two student internship projects involving data scraping and Named Entity Recognition (NER) to detect chemical substances, leading daily stand-ups and weekly code reviews following Scrum practices.
- Implemented and deployed machine learning time series models to predict regulatory data updates, reducing manual data verification by 90% and improving efficiency in compliance monitoring.

Data Scientist Internship

Yordas Digital

June 2020 – October 2020, Lancaster, UK

- Implemented smart search functionality using NLP techniques in Python to enhance retrieval accuracy across a database of 20K+ complex chemical phrases, integrated into a live Safety Data Sheet (SDS) authoring application.
- Collaborated with software engineers and regulatory experts to gather requirements and deliver iterative improvements, ensuring alignment with business needs through Agile methodologies.
- Designed and optimised database queries and indexing strategies to support low-latency search operations, improving search response times by 60% and ensuring scalability for future data growth.

Part-Time Software Engineer

Cassidy and Ashton

June 2018 – June 2020, Preston, UK

- Architected and developed a full-stack MVP of an enterprise-grade timesheet management system using React, Redux, Node.js, Express, and PostgreSQL, delivering end-to-end functionality including authentication, time tracking, and reporting – deployed within 3 months.
- Developed a RESTful API supporting CRUD operations, authentication, and time entry workflows, ensuring reliable performance and a scalable foundation for future feature development.
- Automated CI/CD pipelines and deployed the MVP on Heroku, accelerating release cycles from manual weekly deployments to daily automated iterations, increasing feedback loop velocity by 50%.

EDUCATION

MSc Data Science

Lancaster University • Lancaster • 2020 • Distinction

- Dissertation: *“Enhancing Phrase Retrieval for Safety Data Sheet Authoring”* – Designed and implemented a search solution using Python, Flask and sklearn to improve phrase retrieval accuracy for document authoring workflows.

BSc Computer Science

Lancaster University • Lancaster, UK • 2019 • First Class Honours

- Dissertation: *“Quark: Doing Smart Contracts the Smart Way”* — Developed a declarative smart contract language and compiler in Go, enabling seamless deployment on Hyperledger Fabric and contract management through a bespoke web interface.

CERTIFICATIONS & AWARDS

- **PCEP – Certified Python Programmer** | Python Institute | 2023
- **Deep Learning Specialization** | Coursera | 2019
- **The Complete Web Developer in 2018: Zero to Mastery** | Udemy Course | 2018
- **Data Science Master’s Scholarship** | Lancaster University | 2019
- **First Class Degree Scholarship** | Lancaster University | 2019
- **Undergraduate Commendation** | Lancaster University | 2017
- **A-level Computing Award** | AKS Lytham | 2016
- **Duke of Edinburgh Award – Bronze, Gold** | 2013, 2016