

Patrick Oliver

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About

Senior Software Engineer with a track record of owning complex product and platform features end-to-end across climate tech, biotech and early-stage startups. I build production-grade systems, from AI document pipelines to large-scale search and data platforms, and I lead cross-functional delivery from discovery through to deployment.

Excels at developing creative technical solutions that provide reliable, measurable outcomes to improve workflows and accelerate product development.

Core Skills

- **Languages:** TypeScript, Python, Go
- **Frontend:** React, Next.js, Storybook, Jest, Playwright
- **Backend:** FastAPI, Django, REST APIs, data pipelines
- **AI and Data Systems:** RAG systems, OCR (Mistral), vector search, LangFuse, Vertex AI
- **Infrastructure:** Docker, AWS (EC2, S3, CloudWatch), GitHub Actions, CI/CD
- **Databases:** Postgres, OpenSearch
- **Practices:** TDD, mentoring, stakeholder alignment, product discovery

Experience

BeZero Carbon

Senior Software Engineer

London, UK

Jul 2023 – Present

- Owned discovery and delivered the PoC for the new OpenSearch platform search, validating the approach, defining early architecture and shaping the direction of the new system that replaced the legacy search experience.
- Worked closely with product, design, and senior leadership to translate problem spaces into clear technical plans, creating engineering tickets, shaping architecture, and enabling smooth delivery across multiple teams.
- Designed and implemented a production AI document-processing pipeline using Python, FastAPI, Vertex AI, Mistral OCR. Achieved an 18x extraction speed improvement and reduced analyst review time from 3-5 days to minutes.
- Engineered a distributed, fault-tolerant document ingestion system capable of processing large documents (>50MB or >1,000 pages), with more than 85% citation accuracy and full auditability.
- Added RAG-based Q&A layer that enabled faster document insight and automated follow-up queries for analysts.
- Delivered a Google Drive integration used daily by 30 analysts, saving 2–4 hours per analyst per week and consolidating geospatial workflows into a single tool.
- Improved platform reliability through shared backend schemas, consistent error handling, and multi-environment CI/CD pipelines using Docker and GitHub Actions.
- Reduced the marketing site load time from 3.0 seconds to 1.5 seconds and introduced accessibility improvements that strengthened SEO and user experience.
- Contributed as a senior engineer by unblocking complex work, mentoring teammates, and improving cross-team alignment through structured collaboration.

Idea Atlas
Founding Engineer/First Tech Hire

Oxford, UK
Nov 2022 – Apr 2023

- Built and demoed the company's MVP to investors, directly contributing to the decision to extend the Advanced Subscription Agreement and secure \$300k USD in follow-on funding.
- Owned early product and technical direction, working with the Founder, CFO, and CIO to turn a broad concept into a validated product roadmap and an actionable engineering plan.
- Developed the MVP using Django, React, and Docker, onboarded 50 users in the first two months, and presented early versions to prospective clients to support sales conversations.
- Managed all DigitalOcean infrastructure, including self-hosted GitLab, DNS, and email services, and established a reliable CI/CD workflow with GitHub Actions.
- Led and mentored a team of six Oxford University Computer Science students through a 12-week MVP build, guiding architecture, code quality, and delivery practices.
- Balanced hands-on engineering with stakeholder communication, providing technical updates, risk assessments, and roadmap options to investors and leadership.

Immunocore
Software Developer

Oxford, UK
Jan 2021 – Nov 2022

- Owned development of the Cell and Tissue Tracking System (Python/Django and React), supporting more than 140,000 cell vials and 80,000 tissue samples. Improved lab retrieval time by around 30 percent and ensured HTA-aligned handling and auditability.
- Migrated more than 10 years of Excel-based records into a structured Postgres database, improving data reliability and enabling faster, more accurate lab workflows.
- Optimised bioinformatics pipelines in Python, automating manual steps and increasing team productivity by approximately 20 percent.
- Built OpenSearch dashboards that enabled scientists to run self-serve analyses, significantly reducing recurring requests to the data team.
- Co-founded and led an internal Code Club, mentoring scientists and non-technical colleagues in Python and JavaScript and improving cross-team analytical capability.
- Maintained and improved AWS infrastructure using Terraform, introducing scalable environments and streamlining deployments for internal tools.

Makers Academy
Trainee Software Engineer

London, UK
Feb 2020 – May 2020

- Intensive full-stack training programme, focusing on TDD, pair programming, and agile methodologies.
- Delivered multiple projects in Ruby, JavaScript, and React, demonstrating best practices in code quality and user-focused development

Comau Ltd.
Trainee Safety Engineer

Rugby, UK
2018 – 2019

- Assisted in robotics safety audits, gaining first-hand experience in real-world engineering protocols, risk assessments, and system validation.
- Developed foundational knowledge of robotics and industrial controls, further sparking interest in software engineering solutions for complex mechanical systems

Education

Coventry University
Bachelor of Science (Honours), BSc (Hons)
Combined Engineering

Coventry, UK
2015 – 2018