

# PATRICK FITZSIMONS

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## EDUCATION

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**BSc Data Science and Computing:** Birkbeck, University of London. Expected 2026

**Certifications:** • Introduction to Neural Networks and PyTorch [IBM] • Generative AI & LLMs: Architecture & Data Preparation [IBM] • Databases & SQL for Data Science [IBM]

## EXPERIENCE

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**Founder & Full-Stack Engineer** 2026 – Present  
Stealth Marketplace Platform *In Development*

- Building a full stack marketplace w/ Next.js, TypeScript, Supabase (PostgreSQL), and custom relational schema.
- Implemented secure authentication and authorisation (JWT, RBAC, rate limiting, password reset) and core marketplace workflows.
- Developed search, pagination, reviews, wishlist, and cart features while optimising performance via SSR/SSG, parallel fetching, memoization, and query tuning.

**Backend Developer** November 2025 – Present  
Vilverum *Hybrid, London*  
*Tech: Node.js, Express, PostgreSQL, React, TypeScript, Backblaze B2, Tailwind CSS, JWT, Heroku*

- Architected and shipped a client facing full stack wine portfolio analytics platform end to end.
- Complete database migration from WordPress to PostgreSQL, writing custom scripts to extract, clean and transform legacy data, redesigning the schema including secure password reset flow.

**Backend Developer** November 2025 – February 2026  
OoNt *Hybrid, London*  
*Tech: NestJS, TypeScript, Firestore, Stripe API, OpenAPI*

- Developed and maintained scalable backend API endpoints supporting vendor, order, and payment workflows, including order capture, cancellation, and refund logic with Stripe integration.
- Collaborated with frontend and product teams in Agile sprints, focusing on reliability, performance, and clean architecture.

**Software Developer Intern** May 2025 – June 2025  
Legal Pythia *Hybrid, London*  
*Tech: Python, Selenium, BeautifulSoup, Requests, Docker, MinIO, Google Cloud Functions, GitHub Actions*

- Designed and developed ETL pipelines in Python to extract data from diverse sources, process and clean it, and store the results in Google cloud storage buckets. Tested locally with MinIO and containerised with Docker.
- Deployed to Google Cloud Functions for cost efficient, serverless execution. Implemented CI/CD Workflows with GitHub actions to automate builds, testing, and deployment updates.

## PROJECTS

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- **Aerial Object Detection System** *In Progress*  
Building a radar simulation and object detection framework using C++ and Python, modeling kinematics and signal behaviour, applying statistical feature engineering and supervised learning techniques for probabilistic target classification.
- **Vendor & Transaction API.** Designed backend APIs for vendor and transaction workflows, focusing on clean architecture and reliable data handling.
- **Interactive AI Chat Tool.** Developed a Flask-based chat application integrated with OpenAI GPT-4 and deployed on Heroku, enabling real-time conversational AI.

## TECHNICAL SKILLS

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**Languages:** Python, TypeScript, JavaScript, Java, C++, SQL, R

**Frameworks:** Flask, FastAPI, Express, NestJS, React

**ML / Data:** PyTorch, scikit-learn, Pandas, NumPy, SciPy, Matplotlib

**Cloud & DevOps:** Docker, GCP (Cloud Functions, Cloud Storage), Firebase, Heroku, CI/CD

**Tools:** Git, GitHub, PostgreSQL, Postman, MinIO, MongoDB, Backblaze