

Nathan Crewe

BACKEND DEVELOPER

Leeds, United Kingdom | nathan.crewe@gmail.com | +44 7384 991 207 | linkedin.com/in/nathancrewe

Backend developer with four years of experience building APIs and data pipelines in Python and Go. Currently working on the logistics platform at an e-commerce company handling 840,000 daily orders. Previously built microservices at a health-tech startup that grew from 12 to 85 employees during my time there.

EXPERIENCE

Backend Developer, THG (The Hut Group), Manchester

Jul 2022 – Present

Part of the fulfilment engineering team, building the systems that route and track orders across 7 warehouses.

- Designed and built the order routing service in **Go** that processes **840,000 orders/day** and selects optimal warehouse based on stock, proximity, and carrier cost
- Reduced warehouse API response times from **1.2s to 180ms** by introducing Redis caching and connection pooling
- Built an event-driven returns pipeline using **AWS SQS and Lambda** — handles 23,000 returns per day with zero manual intervention
- Wrote and maintained **OpenAPI specs** for 31 internal endpoints consumed by 4 frontend teams

Junior Backend Developer, Patchwork Health, Leeds

Jan 2021 – Jun 2022

Worked on the shift-matching platform connecting locum healthcare workers with NHS trusts.

- Built a shift recommendation engine in **Python (FastAPI)** that matched 6,200 shifts per week based on worker skills, location, and availability
- Migrated the monolithic Rails backend to **5 Python microservices**, cutting deploy times from 25 minutes to 4 minutes
- Implemented rate limiting and authentication middleware that blocked **14,000 malicious requests** in the first month

Software Developer Intern, Sky Betting & Gaming, Leeds

Jun 2020 – Sep 2020

Summer internship with the platform team working on real-time event processing.

- Built a bet settlement reconciliation tool in **Python** that compared outcomes across 3 data sources and flagged discrepancies
- Processed **2.1 million bet records** during the tool's first live test weekend

EDUCATION

BSc (Hons) in Computer Science, University of Leeds, Leeds

Sep 2017 – Jun 2021

First Class Honours. Dissertation on *optimising database query execution plans for time-series data*. Received the School of Computing prize for best final year project.

SKILLS

Python (FastAPI, Django) • Go • PostgreSQL & Redis • AWS (Lambda, SQS, RDS, S3) • Docker & Kubernetes • gRPC & REST APIs • Kafka & RabbitMQ • Terraform • Git & CI/CD (GitLab CI) • Linux & Bash scripting

CERTIFICATIONS

AWS Certified Developer – Associate, Amazon Web Services

Apr 2023 – Apr 2026

HashiCorp Certified: Terraform Associate, HashiCorp

Jan 2024 – Jan 2026

LANGUAGES

English (native)

PROJECTS

Order Routing Service – THG

Oct 2022 – Apr 2023

Designed and built the core order routing engine from scratch.

- Evaluates **7 warehouses** in real time based on stock levels, delivery distance, and carrier rates
- Handles peak traffic of **14 orders per second** during Black Friday without degradation
- Reduced average shipping cost per order by **£0.38**, saving roughly £2.4 million annually

Shift Matching Engine – Patchwork Health

Jun 2021 – Mar 2022

Built an algorithm to match available locum clinicians to open NHS shifts.

- Matched **6,200 shifts per week** across 47 NHS trusts
- Reduced average time-to-fill from **18 hours to 3 hours**
- Integrated with the NHS Electronic Staff Record for credential verification

REFERENCES

Laura Jennings

Engineering Lead, THG

laura.jennings@thg.com, +44 7700 900 187

Tom Kazimierczak

CTO, Patchwork Health

tom.kaz@patchwork.health, +44 7700 900 290

EXTRA CURRICULAR ACTIVITY

Mentor – Leeds Code Dojo

Mar 2022

Monthly coding dojo where developers solve problems in pairs. Help run sessions and mentor newer programmers. Regular attendance of about 30 people.

Open Source Contributor – FastAPI

Sep 2021

Contributed 4 merged pull requests to the FastAPI framework, including a fix for WebSocket disconnect handling that affected 12,000+ dependents.