

Maximilian Hale

maxhale@live.co.uk · www.maxhale.dev · +44 7874 655059 · United Kingdom

Fullstack engineer who approaches system design with the precision of a physicist and the creativity of a builder. Experienced across the full stack, I focus on reliability, scalability, and crafting solutions that bridge technology and real-world outcomes.

Experience

Fullstack Engineer and Co-Founder | Meritt

Nov 2024 - Present

A sales hiring platform using video, automation, and AI to help startups and agencies hire faster.

- As the founding engineer, architected the entire SaaS platform from the ground up, defining the end-to-end technical strategy, architecture, and reliability standards that enabled the system to scale from 0 to over 20,000 users with 99.9% uptime.
- Owned 24/7 on-call operations as the sole reliability engineer. Established a comprehensive observability stack using Better Stack, Sentry, and PostHog, enabling sub-5-minute median incident response times and real-time visibility into platform health via SLO/SLA tracking.
- Engineered and optimised a large-scale semantic vector search system using pgVector, custom embedding models, and LLM-based re-ranking. This delivered sub-second retrieval across a dataset of over 1 million candidate profiles, allowing recruiters to source qualified talent 70% faster.
- Built a secure, from-scratch authentication platform supporting both password and OAuth (Google, LinkedIn) logins. The system, built on Next.js and PostgreSQL with bcrypt hashing and RBAC, improved signup conversion by approximately 40% while maintaining 99.9% uptime.
- Led a collaborative product design process, engaging with stakeholders and internal team members to distill complex requirements into a clear user experience. Personally created all wireframes, user flows, and interactive prototypes in Figma to directly inform frontend development and boost user engagement.
- Championed and implemented a Clean, Hexagonal architecture that enforced strict coding standards and test isolation. Automated the entire CI/CD pipeline with GitHub Actions, reducing deployment time from 20 minutes to under 5 minutes and enabling multiple production releases per day with confidence.

Mathematics & Physics Tutor | MyTutor

Oct 2021 - Feb 2025

The UK's leading online platform for one-to-one academic tuition.

- Delivered over 600 hours of personalised A-Level tuition to 25+ students, demonstrating an ability to deconstruct complex technical concepts and communicate them effectively, resulting in 100% of students achieving grade A or higher.

Education

MPhys in Physics (Integrated Master's) | University of St Andrews

Graduated 2025

- Completed an integrated master's degree with a focus on Quantum Optics, General Relativity, and Computational Physics, combining theoretical research with hands-on software development.
- Master's thesis: "Beam Shaping for Information Transfer", designed and executed experiments on vortex and vector laser beams for high-efficiency optical communication, exploring how advanced beam shaping can improve data transfer speed and noise resilience.

Technical Stack

- **Languages:** TypeScript, JavaScript (Node.js), Python, SQL, Java, Fortran
- **Backend:** FastAPI, Express.js, Spring Boot, Kafka, REST APIs, GraphQL
- **Frontend:** Next.js, React, Angular, Tailwind
- **Databases & Data Stores:** PostgreSQL, Redis, pgVector, Prisma ORM, Drizzle ORM
- **Cloud & Infrastructure:** AWS (S3, ECS, EC2, RDS), Vercel, GCP, Docker, GitHub Actions (CI/CD)
- **Testing & Observability:** Jest, Playwright, Sentry, BetterStack, PostHog

Projects & Interests

- **Ultramarathon Running:** Successfully completed two 50-mile ultramarathons, developing significant mental and physical discipline through structured, long-term training regimes.
- **Applied Physics:** Build physics simulations in Fortran and C to explore complex theoretical concepts from my academic studies in a practical coding context.