Merlin Webster

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Principal Software Engineer | Product & Systems Architect

I am a product-focused AI-native Principal Software Engineer and technical leader with a over decade of experience architecting, building, and scaling complex, mission-critical systems. I've proven my ability to drive technical strategy, lead cross-functional teams, and deliver high-impact products from idea to production.
My non-standard career path and love of learning has given me a unique blend of deep technical expertise - from AI-integrated embedded systems to full stack web apps running in distributed cloud architectures. I have significant experience solving hard problems in a wide range of domains and technologies.
I'm passionate about the endlessly interesting subject that is software engineering, and I share my knowledge with anyone that will listen, through mentoring and tech talks.

Core Competencies

Technical Leadership & Strategy:

- Technical Vision & Roadmapping
- Cross-functional Team Leadership
- Product & Business Acumen
- Platform Engineering & Developer Experience
- Mentoring, Coaching & Hiring
- Stakeholder Management & Communication
- Platform Engineering & Developer Experience
- Founding Engineer Experience

Architecture & Systems Design:

- Distributed & Cloud-Native Systems
- Microservices & Service-Oriented Architecture
- Event-Driven & Serverless Architecture
- Domain-Driven Design (DDD)
- API Design (REST, GraphQL, gRPC)
- High-Availability & Resilient Systems
- Embedded Systems & Linux Kernel Development

Technical Proficiencies Include:

- **Languages:** TypeScript, Elixir, Scala, Python, Rust, C/C++
- **AI Skills:** Graph-RAG, semantic search, and LLM integration experience, AI-native developer workflows, custom AI model experience, MCP server creation
- **Paradigms:** Functional Programming, Object-Oriented Programming, Concurrent Programming
- **Cloud Platforms:** AWS, Google Cloud Platform (GCP)
- **Infrastructure & DevOps:** Terraform, Docker, Kubernetes, GitHub Actions, CircleCI
- **Databases & Storage:** PostgreSQL, Neo4j, SQL, NoSQL
- **Messaging & Eventing:** RabbitMQ, Kafka
- **Web Frameworks & Libraries:** React, Node.js, Phoenix, Next.js, Typelevel Stack, Tailwind CSS

Professional Experience

Principal Software Engineer | Multiverse *(London / Remote)* | *Aug 2022 – Present (~ 3 years)*
(Promoted to Principal Engineer in May 2025 - The only internal promotion to this level in company history)

I was recruited as a Lead Engineer and later promoted to Principal after 2 years of seeking and solving high impact problems. I've served as the tech lead for 5 engineering teams and driven many cross-team initiatives to completion.

Selected Achievements & Responsibilities:

- **0-1 Video Platform Build:** I led the design and development of a custom video conferencing platform from concept to launch in under two months.
    - I started the project after identifying a business critical, and previously manual process ripe for automation. After laying the foundations and proving it could work, I was able to build a team around the idea, and the product we launched has saved the business hundreds of hours, whilst significantly improving the learning experience for our customers.
    - I built automatic audio transcriptions and meeting summaries, winning an internal AI hackathon. The feature was released to production and was well met by customers.
    - The platform now serves thousands of daily active users and achieved a 95% user satisfaction rate, far exceeding the previous Zoom-based solution.

- **Led product build for US expansion:** Having proven my skills I was asked to lead multiple squads in building a new AI-based skills diagnosis and recommendations SaaS product, aimed at enabling the company's US expansion.
    - I worked alongside the head of product on the front lines as tech lead for the US Product Market Fit team, constantly learning from feedback and pivoting to transform what we thought the customer wanted, into what they actually needed.
    - The systems built now form the foundation of the UK product offering, and have driven significant company growth.

- **Drove Company-wide Technical Change:** As a founding member of the Tech Steering Group and the company's designated AI Tooling Officer, and Events Guild lead, I've been lucky enough to help shape the company's technical strategy and make key architectural decisions that lay solid foundations for our teams.
    - As AI Tooling Officer, I find and roll out the latest and greatest AI developer tools, enabling a team of 80 engineers to stay at the bleeding edge of developer productivity.
    - On identifying a bottleneck that was adding months to projects across the company, I designed and built a new service starter template. This has collectively saved ~6 months of engineering effort across ~4 teams.
    - I authored and delivered company-wide training on Domain-Driven Design and event-driven architecture (RabbitMQ), setting the standard for building maintainable and scalable software across all teams.
    - I led the winning team in an AI hackathon, building a real time voice-to-voice skills diagnosis and recommendation engine in 2 days.

Software Engineer | Kaluza | *2021 – 2022 (~1.5 years)*

- I built highly scalable microservices using Scala as part of Kaluza's energy automation platform.
- I owned the full development lifecycle, including system design, infrastructure as code (Terraform, AWS), CI/CD, and deployment (AWS ECS + Kubernetes).
- Applications were built using a strongly typed pure functional programming style based on Typelevel stack. This taught me many fundamentals that shape how I think about and build software.

Senior Software Engineer | Witekio | *2017 – 2021 (~4 years)*
(promoted to Senior Software Engineer in 2020)
Witekio is an embedded software consultancy, specialising in building custom Linux solutions for custom consumer hardware. I worked directly with customers from requirements gathering and statement of work generation, through implementation and delivery on a wide range of solutions across IoT, cloud, Linux, security, healthcare, consumer electronics, and embedded systems.

Highlights included:

- Translating custom AI models (RNN) for anomaly detection sea edge devices from Python to C.
- Acting as lead engineer and product owner for Pluma Automation, an open-source, Python-based platform for automated hardware-in-the-loop testing and automation.
- Independently running a week long external training course teaching embedded Linux kernel drivers and custom Linux distribution development.
- Designing and building multiple video camera and display Linux Kernel drivers.

Junior Microelectronics Engineer | Science & Technology Facilities Council | *2016 - 2017 (~1.5 years)*

- Designed and led a training course to academic leads on MIPS based microprocessor hardware design and MIPS assembly programming.
- Assisted in running training courses on a wide range of hardware description languages and digital microprocessor design tools.

Computer Vision / Machine Learning Intern | University of Southampton | *2015 & 2016*

- Built custom computer vision and deep learning AI pipelines in C++ for research purposes.

Entrepreneurial & Founding Experience

Co-founder & Technical Lead | Onwards | *2023 – 2024*

- Co-founded a startup to automate the complex legal and administrative process of closing a company in the UK.
- Acted as the sole technologist, responsible for the entire product and technical stack (Next.js, TypeScript, Vercel, Supabase), building the product from 0 to 1.

Co-founder & Technical Lead | Co-Hustle | *2020 – 2022*

- Co-founded a platform to connect entrepreneurs with professionals willing to contribute skills for equity.
- Designed and built the entire technical infrastructure from scratch, including AWS services via Terraform, a GraphQL API, and a React frontend.

Public Speaking & Community

Conference Speaker | Code BEAM Europe | *2023*

- Presented "Let's Play Tetris Together!", a technical educational talk on building a scalable, multiplayer game with Elixir, OTP, and Phoenix LiveView. *View the code on Github*.
- The talk was well received, with one of the highest audience ratings at the conference.

Education

MEng in Electronic Engineering (2:1 hons) | University of Southampton | *2012 – 2016*
Published paper on computer vision research: https://doi.org/10.1364/JOSAA.35.000515