

Mahmood Khalil

Full Stack Software Engineer | CTO & Founder

Location: Southampton, UK | **UK Work Permit:** Available but require sponsorship for the next 3 years.

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Executive Profile

Full stack software engineer with **3+ years of professional experience** developing mission-critical financial software at Fiserv and scaling multiple production applications as CTO & Founder of SaaSTEMLY. Proven expertise in designing secure, maintainable systems with modern technology stacks. Demonstrated leadership through integration testing initiatives (80%+ coverage) and strategic system refactoring across enterprise applications. Passionate about security-first development, clean architecture, and shipping production-ready features that directly impact business value.

Core Competencies: Full Stack Development • System Architecture • Testing & Quality Assurance • DevOps & CI/CD • Team Leadership • Startup Scaling

Professional Experience

Fiserv | Mid-Level Full Stack Engineer

April 2022 – Present | Southampton, UK

Business Context: Developed and maintained internal CRM portals used by leading banks for client onboarding and compliance verification, integrating third-party APIs for credit checks and risk assessment.

Key Achievements:

- **Owned comprehensive testing strategy for two mission-critical applications**, designing and implementing integration test suites with **80%+ code coverage**, ensuring high reliability for banking partners and reducing production incidents

- **Led architectural refactoring initiative across multiple legacy systems** (thousands of lines, multi-application scope), improving code maintainability, observability, and enabling secure CI/CD deployment pipelines while maintaining zero downtime
- **Standardized application security and best practices** across development team, prioritizing security vulnerabilities and implementing secure coding patterns for sensitive financial data handling
- **Solved complex technical challenges** in high-pressure environments, ranging from API integration issues to database optimization and performance troubleshooting

Technical Stack:

- **Backend:** PHP (Phalcon framework), Node.js, RESTful API design
- **Frontend:** JavaScript (Vue.js), HTML5/CSS3
- **Databases:** MySQL, MongoDB
- **DevOps:** Docker, Kubernetes, ArgoCD, GitLab CI/CD
- **Tools & Practices:** Git, Jira, Security-first development, Integration testing, Code review processes

Collaborations: Worked closely with team leads and project managers on prioritization and technical solutions; never direct client interaction but developed strong product sense through internal stakeholder engagement.

SaaSTEMLY | CTO & Founder

April 2025 – Present | Remote

Business Context: Co-founded and scaled a full-stack development studio specializing in custom web applications, 3D visualization tools, and AI-integrated solutions for enterprise clients.

Key Achievements:

- **Founded and scaled SaaSTEMLY from zero to 20+ production applications** serving diverse industries (real estate, e-commerce, AI, brochure), demonstrating end-to-end product development capability
- **Acted as primary technical stakeholder and strategic decision-maker**, negotiating requirements and pricing with clients, defining technical roadmaps, and ensuring delivery of high-quality solutions
- **Led full-stack development across diverse tech stacks**, from 3D visualization applications (Three.js, SolidJS) to AI-integrated platforms (MCP servers) to e-commerce systems
- **Established technical standards and best practices** for rapid development without sacrificing code quality, enabling quick market entry while maintaining sustainability

Notable Projects:

- **Part Mart** – Ecommerce website for vendors to list car-parts and workshop to place orders and physical delivery via api
- **Pool-Visualizer-3D** – Advanced 3D visualization with Three.js and SolidJS
- **SaaSTEMLY** – Our own website which contains an internal CRM to manage leads and clients
- **Real Estate Management Platform** – Multi-tenant system with complex workflows
- **SupremeMarket** – E-commerce marketplace with payment integration
- **Reco Medical** - A simple website to showcase current research with content on Santity for easy updates

Technical Stack:

- **Frontend:** TypeScript, React, Next.js, Svelte, SvelteKit, SolidJS, Tailwind CSS, Three.js
 - **Backend:** Node.js, Hono, Express, Authentication services
 - **Databases:** PostgreSQL, D1 (Cloudflare), SQLite
 - **DevOps:** Vercel, Cloudflare (Pages, Workers, R2), Docker
 - **Specialized:** 3D graphics, AI integration (MCP), Real-time applications
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Technical Skills

Programming Languages

JavaScript • TypeScript • PHP • Python • Java • C#

Frontend Development

React • Next.js • Svelte • SvelteKit • Vue.js • Nuxt.js • SolidJS • HTML5/CSS3 • Tailwind CSS • Bootstrap

Backend Development

Node.js • Hono • Express.js • PHP (Phalcon) • REST APIs • GraphQL • Authentication systems

Databases & Data

MySQL • PostgreSQL • MongoDB • SQLite • D1 (Cloudflare) • Database design & optimization

DevOps & Infrastructure

Docker • Kubernetes • ArgoCD • Vercel • Cloudflare (Pages, Workers, R2) • Git • GitLab CI/CD • GitHub Actions

Specialized Skills

3D Graphics: Three.js, WebGL, Advanced visualization **AI Integration:** Model Context Protocol (MCP), AI assistants **Testing & QA:** Integration testing, 80%+ test coverage design **Security:** Secure coding practices, authentication/authorization, data protection **Architecture:** System design, refactoring legacy systems, maintainability-first approach

Computer Science Fundamentals

Data structures • Algorithms • Object-oriented programming • Design patterns
• System architecture

Education

University of Glasgow

BSc Computer Science (Honours, Faster Route) | October 2018 – July 2021

Dissertation: Machine Learning for Aesthetic Preference Prediction

- Analyzed large survey datasets to build predictive models for app icon preferences
- Implemented using Python (scikit-learn, pandas, matplotlib)

Relevant Coursework: Algorithmics I • Data Fundamentals • Machine Learning • Artificial Intelligence • Deep Learning • Database Systems • Web Science • Operating Systems • Cyber Security Fundamentals • Mobile HCI

Key Academic Projects:

- **Deep Q-Network (DQN):** Implemented convolutional neural networks for autonomous vehicle steering prediction
 - **NLP Classification:** Built Twitter data classifier using NLTK and spaCy
 - **Full-Stack Web:** Developed Django application with RESTful APIs and authentication
 - **Mobile Development:** Flutter medical application (British Heart Foundation collaboration)
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Open Source & Notable Projects

Personal Portfolio (18+ Projects)

Web Applications:

- **eskonly** (Svelte/TypeScript) – Production web application

- **Photography Portfolio** (Next.js/TypeScript) – Professional portfolio website
- **elephantAI** (TypeScript) – Proof-of-concept mcp with authentication
- **sveltePholio** (Svelte/TypeScript) – Reusable portfolio template
- **svelteTemplate** (Svelte/Typescript) - Reusable full-stack project template

Developer Tools:

- **Shopify GraphQL Type Generator** – CLI tool generating TypeScript types from Shopify schemas
 - **Git Project Statistics Tool** – Repository analysis and insights utility
 - **Jira-Git Visualizer** – Integration dashboard for project tracking
 - **Git Auto-Commit Hook** – Automated Jira ticket commenting system
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SaaSTEMLY Organization (20+ Production Projects)

Full-Stack Applications:

- **greaseMonkey** – Foundational template (React/Next.js, 14+ active issues, actively maintained)
- **Pool-Visualizer-3D-SolidJS** – Advanced 3D visualization (96MB+, Three.js/SolidJS)
- **SupremeMarket** – E-commerce marketplace platform
- **Real Estate Management Platform** – Multi-tenant system
- **Quran-Study Platform** – Reading and learning application
- **Salon Management System** – Booking and scheduling software

Backend & Infrastructure:

- **3D App Backend** – Node.js/TypeScript API powering visualization applications (56MB+)
- **SaaStemly Auth** – Centralized authentication service for multi-tenant applications
- **Parts Catalog SDK** – Typescript SDK for a part-finder Api

Development Templates:

- **Vite-Hono Starter** – Template for modern full-stack development
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Certifications & Achievements

- **BSc Computer Science**, University of Glasgow (Honours, Faster Route)
 - **Machine Learning with Python**, FreeCodeCamp (300 hours)
 - **AP Scholar** for Mathematics and Computer Science, College Board (2018)
 - **SAT**: 1390/1600 (94th percentile), College Board (2018)
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Professional Principles

Security-First: Security vulnerabilities are treated as blockers; secure coding is non-negotiable.

Maintainability-Focused: Code is written for humans first, AI second, servers third. Refactoring is an investment.

Problem Solving: Comfortable with ambiguity; thrive in high-pressure environments requiring creative solutions.

Ownership Mindset: Take full responsibility for deliverables; communicate proactively about risks and blockers.

Rapid Iteration: Ship early, gather feedback, iterate. Production experience beats perfect planning.

Why Hire Me

- **Proven full-stack capability** across diverse tech stacks and business domains (fintech, 3D, AI, e-commerce)
- **Track record of scaling** from greenfield to production at both Fiserv and SaaSTEMLY
- **Leadership without ego** – comfortable working in teams or leading initiatives based on what needs doing
- **Client-ready mindset** – shipping features that matter, not technical showpieces
- **Continuous learner** – adopted 4+ new frameworks in 2025 alone while maintaining code quality
- **Mission-driven** – passionate about solving real problems with elegant technical solutions