

Zohaib Shaikh

Full-Stack & AI Systems Engineer

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Accomplished **Full-Stack & AI Systems Engineer** with **4.5+ years** of commercial experience designing secure, scalable architectures, deploying cross-platform applications, and productionizing Generative AI pipelines. Expert across the entire modern software lifecycle from building responsive client-side interfaces with **React/Next.js/React Native** to engineering high-throughput **Python (FastAPI)** backends, fine-tuning **LLMs**, and structuring **relational/vector database layers**. Proven track record of optimizing platform performance, streamlining CI/CD delivery metrics, and translating complex technical requirements into enterprise-ready web and mobile ecosystems.

Work Experience

Full-Stack AI Engineer

Nov 2024 - Present

McAttoh Ltd | London, United Kingdom

Architected and delivered production-grade AI solutions, specializing in **RAG pipelines** and **Scalable Full-Stack Architecture** using Next.js, Python, and TypeScript.

- **RAG & LLM Deployment:** Engineered production-grade **Semantic Search** and RAG pipelines using **Vector Databases**, optimizing context retrieval to reduce search latency by 40% for complex clinical workflows.
- **AI Agent Workflows:** Architected asynchronous **multi-agent orchestration** frameworks in Python for clinical report summarization, implementing iterative evaluation loops that increased data processing accuracy to **95%+**.
- **Full-Stack Feature Engineering:** Developed scalable web features and fluid, type-safe user interfaces utilizing **Next.js (App Router)**, **TypeScript**, and **Tailwind CSS**, maximizing **Core Web Vitals** across live customer environments.
- **System Latency Optimization:** Optimized **LLM inference latency by 20%** by designing custom caching strategies, asynchronous batch-processing queues, and robust **Python (FastAPI)** backends.
- **Engineering Rigor:** Established automated **CI/CD pipelines** (GitHub Actions) and comprehensive test suites (Jest/Pytest), minimizing software regressions and maintaining elite service reliability.

Full-Stack & Mobile Developer

Oct 2021 - Sep 2024

Flymingo Tech | Pune, India

- **Cross-Platform Mobile Apps:** Engineered and deployed high-performance mobile applications using **React Native** and native **Kotlin modules**, focusing on Android-native integration and centralized state management.
- **Backend & APIs:** Built and integrated secure, scalable **REST APIs** and real-time data synchronization layers using **CodeIgniter 4** and relational **SQL databases** for data-intensive mobile experiences.
- **Performance Optimization:** Truncated application load times and UI rendering stutter by implementing structured client-side **state caching**, **lazy loading strategies**, and detailed memory profiling.
- **Web Platforms:** Maintained highly responsive, cross-browser-compatible web architectures using **React.js** alongside cross-functional product, design, and engineering teams.
- **Production Delivery & Metrics:** Successfully shipped **3 major and 7 total production-grade applications** on time, implementing automated testing workflows that slashed overall testing overhead by **25%**.

Projects

MSc Dissertation: Synthetic Histopathology Image Generation with Diffusion Models

Jun 2025 - Sep 2025

- **Tech Stack:** Python, PyTorch, Stable Diffusion v1.5, Generative AI, Data Augmentation.
- Architected a generative AI pipeline utilizing a **Latent Diffusion Model (Stable Diffusion v1.5)** on the complex TCGA-BRCA dataset to generate high-fidelity synthetic medical images, overcoming severe data scarcity constraints.
- **Impact:** Successfully proved the viability of synthetic data for medical augmentation, improving a downstream cancer classifier's performance by a massive **+0.247 AUROC** in simulated data-scarce scenarios.

- **Tech Stack:** Python, Streamlit, PyTorch, ResNet18, Grad-CAM, XAI, FastAPI.
- Developed an advanced clinical support platform utilizing deep learning to detect breast cancer from scans; integrated **ResNet18 and Grad-CAM for visual explainability** via heatmaps.
- Automated end-to-end medical reporting execution to render clinical documentation, improving system diagnostic processing efficiency by **15%**.

Micbam Nigeria

Feb 2025 - Jun 2025.

- **Tech Stack:** Next.js, React.js, TypeScript, Tailwind CSS, Framer Motion, EmailJS.
- Engineered a high-performance corporate web platform for a premier construction and project management firm, creating a clean, responsive, and type-safe user interface to clearly communicate services and portfolio assets.
- Integrated custom interactive animation loops and optimized asset loading pipelines to maximize rendering efficiency and **Core Web Vitals**.
- Developed and deployed an automated client inquiry and quotation generation framework using an **EmailJS-powered contact system**, streamlining B2B communication pipelines.

Bike Junction (App & Admin Ecosystem)

Mar 2024 - Sep 2024.

- **Tech Stack:** React Native, Laravel backend module, PHP, SQL Databases, Tailwind CSS.
- **Shipped a comprehensive on-demand mobile app securing a 5.0★ user rating over 500+ downloads alongside an administrative sales tracking, inventory, and booking schema.**

More projects available at: www.zohaibshaikh.com

Core Skills

Frontend & Mobile: React Native, **Native Android (Kotlin)**, React.js, Next.js (App Router), TypeScript, **JavaScript**, Tailwind CSS, **Framer Motion**, **State Management (Redux/Zustand)**, **Core Web Vitals**, **App Store Deployment**.

Backend & Databases: Node.js, **Express.js**, Python, FastAPI, **CodeIgniter 4**, **PHP**, **REST/GraphQL APIs**, **MySQL**, MongoDB, Vector Databases (ChromaDB / Pinecone).

AI & Machine Learning: Generative AI, LLM Fine-Tuning (LoRA/QLoRA), RAG Pipelines, Multi-Agent Frameworks, **Vision Transformers (ViTs)**, CNNs, Diffusion Models, PyTorch.

Tools & DevOps: Git, GitHub Actions (CI/CD), Docker, **Containerization**, **Postman**, **Swagger**, **Streamlit**, **Agile/Scrum**, **Testing (Jest, Pytest)**.

Education

University of Surrey

Sep 2024 - Sep 2025

Master of Science (MSc) Artificial Intelligence

Core Modules: **Machine Learning**, **NLP**, **Computer Vision**, AI in Health, AI Ethics.

Grade: Merit

Savitribai Phule Pune University

Aug 2020 - Apr 2023

Bachelor of Business Administration in Computer Applications (BBA-CA)

GPA: 9.51

Certifications

Artificial Intelligence Fundamentals | *IBM SkillsBuild* | Sep 2025

Front End Development Virtual Internship | *IBM SkillsBuild & Edunet* | May 2023

Awards

Outstanding Alumni Award - 2024

Feb 2024

Abeda Inamdar Senior College (Affiliated to Savitribai Phule Pune University), Pune