Hamza Ayoub

Full Stack Software Engineer
Mobile : +923095259359
Email: hamzaayoub.engr@gmail.com

LinkedIn • Portfolio • Github

SUMMARY

Full Stack Software Engineer with 3+ years of experience architecting and delivering enterprise-grade web applications across fintech, healthcare, and SaaS domains. Specialized in building regulatory compliance systems for financial institutions, AI-powered data analytics platforms, and cloud-native infrastructure solutions. Proficient in modern tech stack including React.js, Next.js, TypeScript, Django, Node.js, and cloud platforms. Specialized in integrating AI/ML capabilities, designing microservices architectures, and implementing CI/CD pipelines for production systems. Strong track record of translating complex business requirements into robust, maintainable solutions while collaborating effectively with cross-functional teams.

TECHNICAL SKILLS

• JavaScript • TypeScript • Python • React.js • Next.js • Node.js • Django • Django REST Framework
• Express.js • Redux • Redux Toolkit • PostgreSQL • MongoDB • MYSQL • Redis • Prisma • AWS • Azure
• Docker • CI/CD • Github • Nginx • Tailwind CSS • Shadcn UI • Material UI (MUI) • Ant Design • GraphQL
• Restful APIs • WebSockets • Socket.IO • SSR • LangChain • Pinecone • Upstash • MageAI • BullMQ
• ETL Pipelines • Pulumi • Framer Motion • Streamlit • Vertex AI • Trello • API Gateway • ReactGrid
• Prompt Engineering • RAG • Large Language Models

SOFT SKILLS

• Project Management • Team Leadership • Problem Solving • Time Management • Narrative Collaboration • Agile Development • Client Communication • Conflict Identification and Resolution • Cross-functional Collaboration • Requirements Gathering

PROFESSIONAL EXPERIENCE

SparIgnite , Brussels, Belgium (Remote) — Full Stack Developer
Nov 2024 - Present

- **Architect enterprise-grade regulatory compliance platform** for financial institutions using React.js, TypeScript, Django REST Framework, PostgreSQL, and Azure, automating complex regulatory workflows across multiple regions
- Implemented core backend APIs for data versioning, dataset validation, regulatory workflows, and Excel-based data import/export using Django, ensuring auditability and traceability.
- Built interactive frontend interfaces for complex banking and regulatory datasets using React and grid-based components, enabling users to explore, validate, and manage large CSV and Excel files.
- Developed and maintained scalable microservices using Docker and a monorepo architecture, supporting end-to-end workflow orchestration and controlled version releases.
- Partnered with cross-functional teams in an Agile environment to translate regulatory and reporting requirements into reliable, production-ready solutions.

SlashML , Montreal, Canada (Remote) **— Software Engineer**
Mar 2024 - May 2025

- **Developed ML deployment control plane** enabling teams to deploy and manage machine learning models across AWS, GCP, and Azure, reducing deployment time by 10x through automated infrastructure orchestration
- Engineered asynchronous job processing system using BullMQ, Redis, and Socket.IO for real-time deployment monitoring, implementing infrastructure automation with Pulumi and Ansible
- Built AI-powered platforms including no-code app builder (V1) and data analytics tool (Plotsalot) using Next.js, TypeScript, ClaudeAI API, OpenAI API, and PostgreSQL with sandboxed execution environments
- Implemented authentication systems using NextAuth, secure webhooks, and centralized logging for enterprise-grade reliability and multi-cloud deployments

Hanker Technologies , Lahore, Pakistan — MERN Stack Developer
Sep 2022 - Mar 2024

- **Developed vendor management and analytics platform** using MERN stack (MongoDB, Express.js, React.js, Node.js) with Ant Design, delivering operational insights through customer journey visualization and cohort analysis
- Built actionable insights engine tracking customer retention, churn analysis, and forecasting with real-time performance dashboards for retail and hospitality industries
- Engineered admin panel with role-based access control, data synchronization module, and automated stock management capabilities with month-over-month metrics
- Optimized application performance on AWS infrastructure, implementing CI/CD pipelines, automated testing, and version control best practices using Agile methodologies

EDUCATION

Khawaja Fareed University of Engineering & IT, Rahim Yar Khan, Pakistan
Bachelors of Software Engineering (BSSE) 2018 - 2022
- CGPA: 3.71/4.0 | Class Topper Honor Holder
- Developed a full stack MERN Web application
- Served as Teaching Assistant for Discrete structures, Project Management and Database Systems courses.

PROJECTS

RegNxt - Regulatory Compliance Platform

- **Architected enterprise-grade regulatory reporting platform** for financial institutions, automating complex compliance workflows across multiple jurisdictions with 80% reduction in reporting time and 65% improvement in data accuracy
- **Designed core data management systems (BIRD and Orchestra)** using microservices principles, implementing robust data versioning, comprehensive audit trails, and regulatory framework management.
- **Engineered automated validation engines and ETL data pipelines** using MageAI and DuckDB to integrate fragmented data sources, implementing real-time dashboards with comprehensive audit traceability and version control
- Enabled scalable cloud deployment on Azure with Dockerized services, ensuring high availability, security, and adherence to financial industry regulatory standards.
- Delivered advanced data visualization and Excel integration capabilities, allowing seamless import/export and exploration of complex banking datasets.

Tech Stack: React.js, TypeScript, Django REST Framework, PostgreSQL, Redux Toolkit, Tailwind CSS, Shadcn UI, MageAI, DuckDB, Azure, Docker, Microservices

AI-Powered Data Analytics Platform

- **Developed AI-driven analytics platform** enabling natural language queries for data analysis, automatically generating Python code, professional visualizations, and predictive insights for healthcare, finance, and research industries
- **Implemented multi-model AI strategy** integrating Claude, GPT, and Azure OpenAI for high-quality code generation, with sandboxed CodeSandbox environments for secure execution of user-generated analytics code
- **Built automated reporting system** with scheduled delivery (daily/weekly/monthly), auto-refresh data sync, shareable dashboards, and one-click data replacement, drastically reducing analysis time while empowering non-technical users

Tech Stack: Next.js, TypeScript, PostgreSQL, Prisma, Zod, Claude AI, Azure OpenAI, GCP, AWS S3, Python, CodeSandbox API, CI/CD, RAG, Pinecone, LangChain

Hanker Tool - Vendor Management & Analytics Dashboard

- **Developed comprehensive vendor management** and business intelligence platform featuring admin panel with RBAC for managing vendors, users, and roles, alongside customer journey visualization across multi-source datasets
- **Built actionable insights engine** tracking top customers, retention rates, churn analysis, discount hunters, cash cows, and at-risk customers, with customer cohort analysis delivering month-over-month performance metrics
- Engineered data synchronization module highlighting data gaps and anomalies, integrated forecasting and stock management capabilities with real-time performance dashboards for operational efficiency

Tech Stack: React.js, Node.js, Express.js, Ant Design, MySQL, MongoDB, AWS, Redux, RESTful APIs

V1 - AI-Powered No-Code Application Builder

- **Created agentic AI platform** transforming business ideas into production-ready fullstack applications through natural language, featuring AI requirements discovery, automated project planning, and multi-framework support (Streamlit, Gradio, Flask, FastAPI, Next.js)
- **Implemented persistent sandbox environments** with Docker-based deployment pipelines, automated cloud scaling, professional code editor with file tree navigation, and real-time collaboration with version control and rollback capabilities
- **Reduced MVP development time** from weeks to minutes while enabling non-technical users to deploy applications, integrating external PostgreSQL databases, environment variable management, and automated vulnerability scanning

Tech Stack: Next.js, TypeScript, Claude AI (Enthropic API), OpenAI, PostgreSQL, Docker, Google OAuth, Pulumi, WebSockets, CI/CD, Sandbox Environments

ML Deployment Control Plane (Dashboard)

- **Architected full-stack control plane for deploying and managing ML models** across AWS SageMaker, GCP Vertex AI, and Azure ML without cloud console access, enabling teams to deploy models 10x faster

- Engineered asynchronous job processing using BullMQ and Redis for non-blocking infrastructure operations, implementing real-time status updates via Socket.IO for deployment monitoring and centralized logging
- Built infrastructure automation using Pulumi Automation API and Ansible for EC2 provisioning, security configurations, and model server setup, supporting both CPU/GPU instances with cost tracking and performance metrics

Tech Stack: Next.js, TypeScript, Prisma, PostgreSQL, NextAuth, Socket.IO, BullMQ, Redis, Pulumi, Ansible, AWS SDK, Docker, Tailwind CSS, FastAPI

Magemaker - Multi-Cloud AI Model Deployment Tool

- **Developed unified deployment tool for open-source AI models** (including Llama 3) across AWS, GCP, and Azure, eliminating complex cloud documentation navigation through single API interface
- Implemented model lifecycle management including creation, querying, fine-tuning, and deletion with WebSocket-based real-time feedback for deployment progress and logs
- Built Dockerized architecture with FastAPI backend for high-performance routing, AWS S3 integration for model artifacts, and support for major AI ecosystems (Hugging Face, OpenAI)

Tech Stack: Python, FastAPI, Docker, Hugging Face, AWS SageMaker, Google Cloud Vertex AI, Azure ML, WebSockets, AWS S3, OpenAI

Travel Discount Card Ecosystem

- **Developed complete discount card management platform** with admin panel for managing discounts, partner restaurants, and promotional content, alongside consumer-facing application for card registration and redemption tracking
- **Implemented automated WooCommerce order synchronization** via scheduled cron jobs (every 2 hours), integrated Stripe payment gateway for secure transactions with PCI compliance
- **Built responsive user interface** with Material UI and Redux state management, leveraging AWS infrastructure (EC2 hosting, S3 storage, SES for transactional emails) for reliable service delivery

Tech Stack: React.js, Redux, Material UI, Node.js, Express.js, MySQL, AWS EC2, AWS S3, AWS SES, WooCommerce API, Stripe, Cron Jobs

<u>CERTIFICATES</u>

- Developing Back-End Apps with Node.js and Express - **<u>Coursera</u>**
- Advanced React - **<u>Meta</u>**
- Getting Started with Git and Github - **<u>Coursera</u>**
- Introduction to Cloud Computing - **<u>Coursera</u>**
- React Basics - **<u>Meta</u>**
- Introduction to Web Development with HTML, CSS, JavaScript - **<u>Coursera</u>**