Adnan Ahmad

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PROFESSIONAL SUMMARY

Principal Software Engineer & Consultant with 8+ years architecting distributed systems, scalable micro-frontend platforms, and production agentic AI applications across AWS, Azure, and GCP. Currently engineering a data governance portal with multi-agent AI workflows (AWS Bedrock, Databricks SQL, LangGraph, MCP), an LLM FinOps layer, and a real-time streaming AI assistant with per-request cost estimation.

SKILLS

Backend & Middleware: Express.js, Node.js, Python Django, FastAPI, FastEndpoints

Frontend Frameworks: Next.js, React, Redux, RTK, RxJS

Databases & Storage: Databricks SQL, PostgreSQL, Azure SQL, DynamoDB, MongoDB, Redis

Programming Languages: JavaScript, Python, TypeScript

Cloud & DevOps: AWS, Azure, GCP, Docker, Git, GitLab, SonarQube

AI & Agentic Systems: AWS Bedrock, Vertex AI, LangChain, LangGraph, Deep Agents, LLMs, MCP

Testing & Observability: Pytest, Vitest, Distributed Tracing

WORK EXPERIENCE

Systems Limited

Principal Consultant | *08/2026 - Present*

- Architected an enterprise data governance and self-service portal (Next.js App Router + Databricks) with AI-assisted workflows served through an internal AI gateway, spanning 4 deployment environments.
- Built a production streaming AI assistant on AWS Bedrock and the Vercel AI SDK, with server-side tool execution over live catalog and governance data, persisted multi-turn chat history, and per-request cost estimation.
- Delivered an LLM FinOps layer over Databricks SQL tracking enterprise token spend and multi-million-dollar DBU consumption, giving platform owners per-team attribution and budget visibility across AI workloads.
- Cut new request-form rollout from days to hours with a declarative intake engine that renders multi-step wizards, conditional requirements, derived fields, and multi-gate approval escalation from configuration instead of code.
- Instrumented the platform end-to-end with an auto-capturing browser telemetry layer (page views, interactions, unhandled errors) correlated to server-side records via distributed trace IDs — the evaluation substrate for AI features.
- Achieved 100% mutation audit coverage with zero per-route code by installing audit as AWS SDK middleware over DynamoDB, capturing full actor attribution including admin-impersonation chains — the provenance trail required to govern AI-driven actions.
- **Tech Stack:** Next.js 16, React 19, TypeScript, Tailwind CSS 4, shadcn/ui, AWS (Amplify Gen 2, DynamoDB, Lambda, Bedrock), Databricks SQL, Unity Catalog, Okta OIDC, Recharts, GitLab CI/CD

Confiz

Principal Software Engineer | *03/2025 - 07/2026*

- Architected and delivered 8 scalable micro-frontend components for a high-traffic supply chain platform, enabling seamless integration and reducing deployment friction by 40%.
- Designed and developed enterprise microservices utilizing FastEndpoints and Vertical Slice Architecture to ensure maintainability and clean separation of concerns.
- Established scalable theming and design token strategies, driving UI consistency and accelerating developer velocity across frontend teams.
- Engineered an AI-powered sentiment analysis platform running daily data pipelines, leveraging LangGraph and LLMs to extract actionable business insights from structured silver and gold data tables.
- Integrated GCP services (Cloud SQL, Logging, Tracing) for system observability, and implemented secure authentication using Okta.
- Optimised multi-agent AI system accuracy by 30% by aggressively refining prompts, configurations, and memory management.
- **Tech Stack:** Azure, Azure SQL Database, Express.js, Node.js, Redis, React, GCP, Python Django, LangGraph, FastEndpoints

Origami Studios

Senior Software Engineer | *12/2024 - 03/2025*

- Spearheaded the architectural design and end-to-end development of Haven Sense, a highly scalable social interactive e-commerce platform.
- Accelerated time-to-market by rapidly building and deploying the Minimum Viable Product (MVP) from the ground up in just 3 months, directly aligning technical execution with strategic business goals.
- Partnered with cross-functional stakeholders to define product roadmaps, delivering technical guidance that ensured on-time milestone achievements.
- Optimized agile delivery and cross-team collaboration by streamlining JIRA workflows and establishing rigorous project management practices.
- **Tech Stack:** AWS, Express.js, Node.js, Redis, React

Kodifly

Senior Software Engineer | *11/2023 - 08/2024*

- Engineered a real-time landslide detection system utilizing advanced point cloud comparisons to process high-volume spatial data with sub-second latency, automatically triggering critical alerts to enable immediate risk management interventions.
- Designed and deployed an automated detection system to track railway ballast movement during nearby construction. Leveraged 3D point cloud analysis to extract daily displacement trends, generating automated alerts to prevent severe track instability.
- Deployed a highly accurate computer vision pipeline using YOLOv8 to detect unauthorized entities in restricted tunnel environments, achieving 98% detection accuracy and delivering real-time alerts that significantly enhanced operational security.
- **Tech Stack:** AWS, Python Django, Celery, Redis, React, ROS, YOLOv8

Barbarians, Inc.

Senior Software Engineer | *08/2022 - 08/2023*

- Architected a robust customer identity verification engine encompassing automated employment, income, and device checks, reducing fraud and manual review overhead by 60%.
- Streamlined the Omni Channel loan application MVP through a unified API integration, significantly accelerating application processing times and improving the end-user experience.
- Built comprehensive back-office operational tools in the Branch portal, empowering loan agents to efficiently manage and process high volumes of omnichannel applications.
- Increased code reusability across 5+ enterprise projects by developing a core microservices library, ensuring reliability through comprehensive unit testing protocols.
- **Tech Stack:** AWS, Node.js, Express.js, Redis, Next.js, React

Optergy

Software Engineer | *08/2018 - 07/2022*

- Developed and maintained highly reliable web applications for enterprise smart building and energy management systems, optimizing real-time data visualization and operational efficiency.
- **Tech Stack:** AWS, Node.js, Express.js, Python Django, Redis, React, Angular

EDUCATION

Lahore University Of Management Sciences

BS Computer Science | *08/2014 - 05/2018*

Focused on Algorithms, Distributed Systems, Artificial Intelligence and Software Engineering.

Lahore Grammar School

Cambridge Ordinary and Advanced Level | *08/2009 - 06/2014*

Pre-Engineering track and Science focus.