Abdul Samad Irfan

Software Engineer

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St. Julian's, Malta

Summary

Software Engineer with 5+ years building and modernizing cloud-based backend and platform services across fintech and SaaS. Strong in **Python**, **C#/.NET**, **microservices**, **APIs**, and **SQL**, with hands-on delivery on **AWS** and **Azure** and a focus on authentication systems. Upgraded Legacy Fintech application to latest technologies, and delivered **$358K+** annual cloud savings while supporting production operations and CI/CD automation.

Technical Skills

Programming Languages: C# | Python | JavaScript/TypeScript | Java
Backend: NET | .NET Framework | Web API | WCF | Fast API | Dropwizard | microservices | distributed systems
Database: SQL Server | MySQL | Aurora | Redis | Cassandra | Elasticsearch
Cloud: AWS (EC2 | ECS | Lambda | RDS/Aurora | S3 | VPC | CloudWatch) | Azure (Entra ID | Azure DevOps)
DevOps/ CI/CD: Docker | Kubernetes | Terraform | TeamCity | Jenkins | CircleCI | GitHub Actions | Datadog
Security: OAuth 2.0 | JWT | RBAC | SSO | PingFederate | Okta | Entra ID
Message Queues: Apache Kafka | RabbitMQ | AWS SQS
AI-first Engineering: Cursor | Windsurf | Claude Code/Claude | MCP | Agentic workflows | LLMs | Prompt engineering

Experience

AI-First Software Engineer II - Trilogy (Contractor - Remote)

May 2025 - Jan 2026

- Integrated newly acquired Khoros platform (**350+ repos**) into Trilogy infrastructure by rolling out standardized **Jenkins/CircleCI** pipeline templates, build conventions, and deployment runbooks, enabling consistent releases process.

- Eliminated **Twitter/X** integrations across four product lines by updating 20+ UI repositories and automating **multi-TB** data purges across MySQL/Aurora, Cassandra, and Elasticsearch with **zero downtime**.

- Reduced annual AWS spend by **$358K+** across **44 accounts** and **3 regions** by analyzing CloudWatch/Datadog utilization and implementing rightsizing and storage and network optimizations.

- Improved fleet reliability and capacity planning by right-sizing **485 application servers** using **Datadog** utilization trends and operational guardrails.

- Enhance User Experience by Joining **Hackathons** on weekends to work on **production tickets**

- Accelerated production ticket resolution by creating context-aware AI agents using **Cursor** and **Claude** to speed code reviews, debugging, and root-cause analysis across the Khoros platform.

Software Developer - JPMorgan Chase & Co (Contractor - Remote)

March 2023 - March 2025

- Reduced manual upgrade effort by 80% by building automations, while modernizing 150+ backend microservices from **.NET Framework 4.5.2** to **.NET 8**.

- Improved API performance by **58%** by migrating **45+ WCF services** to **ASP.NET Web API** and introducing **MessagePack** while preserving JSON compatibility.

- Enabled scalable real-time notifications and market data feeds by replacing WCF duplex communication with **Kafka eventing**.

- Strengthened authentication and authorization by implementing enterprise **SSO** and **RBAC** using **PingFederate** and **Azure Entra ID**.

- Increased release reliability by building and maintaining **TeamCity CI/CD** pipelines for **multi-targeting .NET projects** and supporting build/test and regression validation with QA.

- Reduced migration risk by implementing a **rollback-safe** client (**Web API with fallback to WCF**), enabling incremental releases without service disruption.

- Improved user experience by converting blocking service calls to **async** patterns and reducing UI latency during high-volume trading.

Senior Technical Content Engineer - Educative (Full Time - Lahore, Pakistan)

January 2022 - June 2023

- Created **15+ top-selling** interactive programming projects (C#, **Java, Python**) covering **OOP/OOD, Algorithms** and **Design Patterns**, adopted by thousands of learners.
- Built **Docker-based cloud labs** for 10+ stacks (including **.NET, Django, MERN/MEAN, MongoDB, Postman**), enabling browser-based development environments.
- Improved platform **automation** by containerizing lab environments with **Docker** and automating GitHub repo checkout, image builds, and lab deployments via **CI/CD** pipelines.

Engineer - Tricon Boston Consulting Corporation Pvt. Ltd. (Full Time - Jhimpir, Pakistan)

December 2020 - January 2022

- Enhanced wind turbine performance by simulating conditions using **MATLAB** and **Python** for early fault detection.
- Analyzed the impact of vortex generators on wind turbine performance using previous and predicted wind data.
- Created a UI for live updates of wind turbine generation using **.NET** and **JavaScript** for **government monitoring**.

Projects

AI-assisted Bank Reconciliation

2025

- Built an AI-assisted bank reconciliation tool, for book keeping company for their trucking companies clients, that ingests PDF statements from multiple banks, extracts transactions using OCR, and exports categorized CSV/Excel outputs.
- Implemented transaction categorization using **Gemini** (**LangChain**) with **Pinecone** vector search (HuggingFace embeddings), supporting client-specific General Ledger/Charts Of Accounts context.
- Delivered a full workflow (**FastAPI** + **React** UI) with async batching/concurrency limits, structured logging, health endpoint, and CSV-safe sanitization.
- Deployed on **AWS** using **Docker** (pre-downloaded embedding model to reduce cold starts), NGINX reverse proxy (CORS + long PDF timeouts), CloudWatch logging (`awslogs`), and **GitHub Actions** CI/CD with runbooks.

IFTA DriverPacket

2025

- Built an AI-powered pipeline to convert driver packet images and route CSVs into structured trip data and state-by-state mileage using **Gemini** OCR, **HERE** routing/geocoding, and GIS-based analysis.
- Implemented a **FastAPI** backend for miles calculation, driver-packet processing, PCS trip processing, and jurisdiction-ready IFTA exports (e.g., CA CDTFA-5235, TX X12 813) with **AWS S3** uploads and pre-signed download URLs.
- Productionized delivery with **Docker**, GitHub Actions CI (tests/lint/security), and automated deployment to EC2.

Education

University of Engineering and Technology Lahore

B.Sc., Electrical Engineering (3.5/4.0 CGPA) — 2016 - 2020