Anmol Tomer

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Education

- **Vellore Institute of Technology** Chennai, IN
  Bachelor of Technology in Electronics and Computer Science Engineering; CGPA: 8.6/10.0 *2018 – 2022*

Experience

- **CRED** Bengaluru, IN

- **Backend Engineer — Payments Platform** June 2023 – Present
  - Spearheaded **in-house VPA creation** via **Axis UPI APIs**, reducing merchant VPA TAT from **14 days to real-time** by eliminating manual ops and banking handoffs.
  - Designed and built **automated merchant onboarding workflows** using **AWS Step Functions** and **SQS**, cutting integration TAT from **4–5 days to 2 hours** and reducing **Shopify/Gokwik** onboarding from **2 days to 5 minutes**.
  - Implemented **regulatory-compliant KYC verification pipelines** using **Karza APIs**, ensuring accurate identity validation and adherence to payment compliance requirements.
  - Engineered **large-scale, low-latency payment microservices** powering **UPI Autopay, Cards, BNPL, Wallet Loading, Mutual Funds**, and Checkout flows across CRED.
  - Built **fault-tolerant distributed workflows** using **Java + Spring Boot**, **SQS/Kafka**, idempotent processors, DLQs, and event-driven orchestration to handle high-volume payment traffic reliably.
  - Integrated **HDFC UPI stack** into the core Credit Card Bill Payments flow, resulting in **50L+ monthly cost savings** and a **3% improvement in payment success rates** over existing UPI rails.
  - Owned backend systems **end-to-end**: system design, API contracts, provider integrations, microservice development, production rollouts, monitoring, on-call operations, and deep-dive incident debugging.
- **Product & Partner Engineering** Sep 2021 – June 2023
  - Built a **self-serve merchant onboarding platform** using **Swagger-based APIs**, significantly reducing dependency on partner onboarding and operations teams.
  - Developed **Python automation pipelines** on **AWS Lambda** to streamline payment operations and reduce refund processing turnaround times.
  - Led **sales and partner engineering for CRED Pay**, working closely with merchant engineering teams and enabling integrations across **400+ brands**, including **Zomato, BigBasket, Zepto, and IRCTC**.

Projects

- **Bloom Learn**
  Code
  - Built a **full-stack AI-powered learning system** implementing **Bloom's Taxonomy** using a **deterministic, policy-driven state machine** rather than LLM-based progression decisions.
  - Designed a **multi-agent orchestration engine** (**Judge, Feedback, Tutor**) with **FastAPI** and **PydanticAI**, coordinating agent execution, retries, and state transitions across learning levels.
  - Implemented **observability-first AI workflows** using **Langfuse**, enabling **per-agent tracing**, prompt versioning, latency analysis, and token-level cost visibility across sessions.
  - Built a **Token & Cost Intelligence (TKI) layer** to track token usage per agent, per Bloom level, and per session, enabling rate limiting, spend control, and production cost analysis.
  - Engineered **LLM reliability and resilience** via **multi-provider fallback chains**, automatic retries, and graceful degradation to handle provider timeouts and outages.

- Developed **multiple user interfaces** — a **React + TypeScript web app**, **REST & streaming APIs (SSE)**, and a **CLI/TUI** — all backed by a shared orchestration and observability layer.

- **Verso**
  Website · Demo
  - Built an **agentic AI-driven backend service** using **Google Gemini** and **PydanticAI** to classify unstructured text and enforce schema-compliant LLM outputs.
  - Implemented secure, asynchronous **authentication workflows** using **FastAPI async tasks** and **Clerk**, including OTP delivery, JWT validation, retries, and cooldowns.
  - Developed backend services for **media asset management** using **Google Cloud Storage**, providing secure access via **time-limited signed URLs**.
  - **Containerized and deployed** the system on a **GCP VM** using **Docker**, with **Alembic** migrations and a **Caddy** reverse proxy.

TECHNICAL SKILLS

Languages: C/C++ (STL), Java, Python, SQL, TypeScript
Frameworks & Libraries: Spring, Spring Boot, FastAPI, Node.js, Zod, Alembic, Pydantic, Hibernate, Pandas, Express.js
Databases: MySQL, MongoDB, Redis, DynamoDB
Architectures: Microservices, Event-Driven Architecture (**Kafka**), Distributed Systems, Domain-Driven Design
Developer Tools: Git, Docker, Postman, Bash, n8n, Claude Code
Cloud & DevOps Tools: AWS (EC2, S3, SQS, Lambda, Step Functions), **Apache Kafka**, Datadog, Jenkins, Grafana (Loki)