Mayank Gupta

mayankgupta17may@gmail.com | +91-9784181292 | github.com/Mayank2142 | linkedin.com/in/mayank-gupta-14b95428b | codolio.com/profile/Mayank1720

Education

Vellore Institute of Technology — Vellore, Tamil Nadu
*B.Tech in Computer Science & Engineering (Information Security) | CGPA: **9.04/10*** — *Aug 2023 – Aug 2027*

Work Experience

Valsco Technology Pvt. Ltd. — Remote
Frontend Developer Intern — *Jun 2025 – Aug 2025*

- Developed and shipped **4+ production features** using **React.js, JavaScript, and Tailwind CSS** within a **microservices-based application**, translating application requirements into reliable production workflows across **6+ key components**.
- Integrated **5+ REST APIs** across **3+ backend microservices**, tracing distributed data flows and optimizing reusable API modules to reduce redundant network requests by **30%** while improving performance and service reliability.
- Investigated and resolved **15+ production issues** across distributed modules by tracing failures, debugging API interactions, and collaborating with backend engineers to identify root causes and ship reliable fixes with **zero regressions**.

Projects

Anti-Money Laundering Detection | *Python, DuckDB, FastAPI, React, LLMs* | GitHub | Live Demo — Jul 2026 – Aug 2026

- Built an **AI-native investigation workflow** over **5.1M+ transaction records** using **Python, DuckDB, FastAPI, React, LLMs**, integrating data retrieval, tool execution, ML detection, and generated explanations into an end-to-end system.
- Architected a **query-intent-driven orchestration layer** that dynamically routes requests across EDA, feature engineering, statistical analysis, and ML tools, enabling adaptive **workflow execution** instead of rigid pipelines.
- Designed a **hybrid anomaly-detection workflow** combining rule-based checks, statistical detectors, and **Isolation Forest**, with risk scoring, source-data validation, and explicit handling of **model failure modes**.
- Implemented **evidence-grounded LLM evaluation** that validates generated findings against source data, tracks **analytical provenance**, and provides auditable verification to detect unsupported model outputs.

CineBook – Concurrent Ticket Booking System | *TypeScript, PostgreSQL, Prisma, Redis* | GitHub — Jul 2026 – Aug 2026

- Built and deployed an end-to-end **TypeScript** ticket-booking platform using **Next.js, React, Prisma, PostgreSQL, and Redis**, covering seat discovery, reservations, waitlists, booking confirmation, and QR ticket delivery.
- Engineered **concurrency-safe seat booking** with PostgreSQL **SERIALIZABLE transactions**, conditional state transitions, and retry handling to prevent double booking and maintain consistent inventory under simultaneous requests.
- Implemented resilient real-time workflows using **Redis Pub/Sub + Server-Sent Events (SSE)**, a maintenance worker, and scheduled/lazy expiry for seat holds and waitlist offers, with fallback recovery for failure scenarios.
- Added production safeguards including **request IDs, structured JSON logging, rate limiting, liveness/readiness checks, CI/CD validation**, and **16 API/integration tests** to improve observability and release reliability.

Achievements & Hackathons

- **2nd Prize Winner** at **Société Générale's iHackMyPlace 2026 Hackathon**, earning a **Rs. 10,000 cash prize** for developing Sentinel AML as part of a team.
- Ranked **250th among 15,900+ participants (Top 1.6%)** in the **Goldman Sachs India Hackathon 2026**.
- Advanced to **Round 3** of **Flipkart GRiD 8.0**, ranking among the **Top 2% of 165,730+ participants** nationwide.

Technical Skills

Languages: Python, TypeScript, JavaScript (ES6+), C++, SQL

AI & LLM Engineering: LLMs, Prompt Engineering, AI Workflows, Workflow Orchestration, Tool Orchestration, Model Evaluation, Anomaly Detection, Statistical Analysis, Feature Engineering, scikit-learn

Backend & APIs: FastAPI, Node.js, Express.js, RESTful APIs, Microservices, API Integration, Backend Services

Production Engineering: Production Debugging, Root Cause Analysis, Failure Analysis, Reliability Engineering, Observability, Structured Logging, Health Checks, Testing, Performance Optimization

Frontend: React.js, Next.js, Tailwind CSS, Vite

Databases: PostgreSQL, MySQL, MongoDB, DuckDB, SQLite, Firebase Firestore, Data Warehousing

Cloud & DevOps: AWS, Docker, Linux, Git, GitHub, CI/CD, Cloud Deployment

Systems: Distributed Systems, Concurrency, Event-Driven Workflows, Real-Time Systems, System Design, DSA

Certifications

IBM Career Education Program – Generative AI | **View Credential**
Generative AI, Large Language Models (LLMs), Prompt Engineering, and AI Applications