

NILANJAN MITRA

+91 88995 80221 | nilanjanbmitraiitm@gmail.com | nilanjanmitra.tech | [LinkedIn](#) | [GitHub](#) | [LeetCode](#)

EDUCATION

Indian Institute of Information Technology and Management, Gwalior

Bachelors of Technology in Computer Science - CGPA: 8.72

Gwalior, Madhya Pradesh

Aug. 2023 - Jul. 2027

Army Public School, Jammu Cantt.

CBSE XII - AISSCE - 95.2%

Jammu, J&K

May 2022 - May 2023

WORK EXPERIENCE

Summer Analyst — JPMorganChase

Java, Spring Boot, Kafka, PostgreSQL, Python, FastAPI, AWS (Bedrock, OpenSearch), React

May 2026 - Jul. 2026

Hyderabad, India

- Architected and built three microservices designed to replace the hybrid mainframe promotions service at Chase, moving a weekly batch (4 hrs for 5M customers) to daily, event-driven reward decisions.
- Load-tested **875K events** (2,500 seeded customers, 45 rules) in **62.1s: zero failures** at **14–17K EPS**.
- Built a database-backed, configurable rules engine so business teams can update rules without re-deployments.
- Enforced idempotent, auditable event processing with Debezium PII masking (**7.5μs/record**): zero duplicate rewards, 100% out-of-order rejection, aligned with **PCI-DSS**.
- Developed ML-driven customer segmentation and campaign intelligence, tested at **5K customers into 8 segments in ~5 minutes**. This enables reward-proximity nudges and a citation-grounded RAG campaign assistant.

Backend & AI Engineer Intern — StackGuard

Go, Python, AWS, Azure, PostgreSQL, pg-vector, Microsoft Graph API, Kafka

Aug. 2025 - Nov. 2025

Remote

- Led the Microsoft Teams integration (Graph API): real-time alerts & redaction of messages leaking secrets or non-human-identity (NHI) credentials.
- Lifted **LLM throughput 70%** via batching; tuned HNSW vector search to cut **p99 latency 90%** at 97% recall.
- Built a Python RAG engine that analyzes cloud IAM configs for security risks and suggests fixes.
- Built a Kafka event pipeline for alert queuing and infrastructure scanning.
- Optimized Docker orchestration from six to three containers, **reducing CI/CD build times by 80%**.

VOLUNTEERING

Backend Lead — Twaran (Inter IIIT Sports Fest)

PostgreSQL, Node.js, Prisma, GCP, NGINX

Jan. 2025 - Mar. 2025

Gwalior, Madhya Pradesh

- Led a team of five building the backend for registrations, fixtures and payments; deployed on GCP behind NGINX with PM2 auto-restart over 3 instances for fault tolerance.
- Handled **2000+ participations** from **26 IIITs** across **20+ sport categories**.

PROJECTS

ForensIQ | *Docker, ELK Stack, PostgreSQL, FastAPI, Svelte 5, RiverML*

Dec. 2025 - Mar. 2026

- **National finalist**, DSCI Cybersecurity Innovation Challenge 1.0 (top 20 of 500+ teams).
- Built a tamper-evident digital-forensics platform designed to produce court-admissible findings.
- Designed two pipelines: a real-time *hot path* for anomaly detection utilizing **online learning with RiverML** and a *cold path* that seals evidence with **Merkle hashing** and **RSA-4096 signatures**.
- Led scalability planning for high-volume telemetry on the test AWS deployment (**25K EPS** target).

Hyve | *MongoDB, Express.js, EJS Templates, SCSS*

Oct. 2023 - Dec. 2023

- Built a self-hosted storage and media server on a Raspberry Pi 4B with admin controls and CUPS-based print scheduling.

TECHNICAL SKILLS

Languages: TypeScript/JavaScript, Go (Golang), Python, Java, C/C++, SQL, Bash

Frameworks: Spring, Node.js, FastAPI, Echo, Fiber, React, Svelte, Next.js

Database Systems & ORMs: PostgreSQL, pgvector, MongoDB, Prisma, Drizzle, GORM

Cloud & Infrastructure: AWS, GCP, Azure DevOps, Docker, Kafka, NGINX, CI/CD

Developer Tools: JUnit/Mockito, Jest, Github Actions, BitBucket, Jenkins, Spinnaker, Git, LaTeX

Concepts: DSA, Distributed Systems, Microservices, Event-Driven Design, Cloud Native, RAG & Vector Search

LEADERSHIP & ACHIEVEMENTS

- Finalist in Code For Good 2025 (JPMorganChase): built a unified data and analytics platform for [Diksha Foundation](#).
- Certified Associate MongoDB Node.js Developer & Data Modeller.
- Reporting Executive, Uthaan — coordinated and conducted 15+ HYP (How You Got Placed) interviews.
- Mentor, Devkriti 2025 — guided **8 mentees** in realizing their project ideas over the winter.
- 1st place in **3 intra-college competitive programming contests** (WJPS ×2, JPC ×1).