Tatvam Jain

Noida, Uttar Pradesh | +91-8851483266 | tatvam.jain17@gmail.com | linkedin.com/in/tatvam-jain | github.com/tatvamjain

PROFESSIONAL SUMMARY

Computer Engineering student with a **9.40/10 CGPA** and experience in product development and AI research. Experienced in building **secure backend systems, scalable full-stack applications, and applied AI solutions** using FastAPI, PostgreSQL, Redis, Docker, and modern AI frameworks. Strong focus on backend engineering, system reliability, secure authentication, and rigorous model evaluation.

EDUCATION

Thapar Institute of Engineering and Technology **Aug 2023 – Jun 2027**
B.E. in Computer Engineering | ***CGPA: 9.40/10*** *Patiala, India*

TECHNICAL SKILLS

Languages: Java, Python, C++, JavaScript/TypeScript, SQL
Backend & Databases: FastAPI, REST APIs, PostgreSQL, SQLAlchemy, Alembic, Redis, Redis Streams, JWT, OAuth/Security
AI/ML: PyTorch, Computer Vision, NLP, Transformers, RAG, LangChain, LangGraph, FAISS, ChromaDB, Anomaly Detection
Cloud & DevOps: GCP (Compute Engine, Cloud Run, GKE, Cloud SQL, Cloud Build), Docker, Docker Compose, AWS, GitHub Actions, CI/CD, DNS
Core CS: Data Structures & Algorithms, OOP, DBMS, Operating Systems, Computer Networks, Caching, Microservices

EXPERIENCE

Samsung R&D Institute India **Aug 2026 – Oct 2026**
Research Intern - PRISM *Remote*
- Built a multi-stage annotation QC pipeline integrating YOLO11, SAM2.1, and geometric validation to detect labeling errors across computer vision datasets.
- Developed an anomaly-scoring framework benchmarked on 3,369 objects across 500 images and 13 error types, prioritizing suspicious annotations for human review.

American Express **Jun 2026 – Aug 2026**
Product Development Intern *Gurugram, India*
- Contributed across the **SDLC** for product releases, including requirements analysis, Java artifact builds, API testing with Postman, regression testing, UAT reporting, and release support.
- Developed a **RAG-based workflow automation agent** to streamline development and validation tasks using contextual knowledge retrieval.
- Implemented **15+ decision variables** and **25+ business rules** across **9+ international markets**, supporting product enhancements associated with **$9.8M PTI impact**.

PROJECTS

Placelytics – Campus Recruitment Intelligence Platform **GitHub | Live Demo**
Next.js, TypeScript, FastAPI, PostgreSQL, Redis, GCP, GKE, Cloud Run, Cloud Build
- Built and deployed a full-stack campus placement platform using **Next.js** and **FastAPI**, featuring recruitment tracking, placement analytics, season archives, and admin-managed updates on GCP.
- Implemented secure OTP authentication, Ed25519-signed **JWTs**, refresh-token rotation, and CSRF protection; designed event-driven processing with the **PostgreSQL transactional outbox**, **Redis Streams**, retries, and idempotency.

Speech Recognition Voting System **GitHub**
Patent Published – Indian Patent Office | React, TypeScript, PostgreSQL, Docker, AWS
- Developed a speech-to-vote pipeline for users with dysarthric speech by fine-tuning **wav2vec**, achieving **87% recognition accuracy** on dysarthric speech; project patent published by the Indian Patent Office.
- Built an accessible React interface with live transcription and vote confirmation; deployed with Docker and AWS and configured GitHub Actions CI/CD with PostgreSQL-backed records.

AI Agent based Task Manager **GitHub**
Python, FastAPI, PostgreSQL, Docker, JWT, LangChain, LangGraph
- Engineered **RESTful APIs** using **FastAPI and PostgreSQL** for task management, implementing CRUD operations, pagination, sorting, relational data modeling, and user-scoped authorization.
- Integrated **Groq LLMs with LangChain and LangGraph** to support natural-language task queries and task prioritization, and **containerized the FastAPI backend using Docker**.

ACHIEVEMENTS

University Merit Scholarship 2023 – 2026
ACM Hacklipse Hackathon – Runner-up Jan 2026
American Express Product Track Challenge – Winner Jun 2025