VIJAI PATANGE

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OBJECTIVE

Final-year CS student with hands-on experience building scalable backend applications, designing REST APIs, debugging distributed systems, and solving complex software engineering problems. Passionate about delivering reliable software and helping users resolve technical challenges.

TECHNICAL SKILLS

Programming: Python, Java, JavaScript, SQL
Core CS: Data Structures & Algorithms, OOP, Operating Systems, Computer Networks, DBMS, Concurrency
Backend & APIs: Django, FastAPI, Flask, RESTful APIs, Microservices, API design, Authentication & Authorization
Databases & Infrastructure: PostgreSQL, MongoDB, pgvector, Redis, Celery, Indexing, Query Optimization, Transactions
Software Engineering: System Design, Distributed Systems, Testing, Pytest, Git, GitHub, CI/CD, Debugging
Machine Learning & AI: PyTorch, scikit-learn, RAG, LLMs, LangChain

PROJECTS

Conference AI | *GitHub* | Django, PostgreSQL (pgvector), React, Celery, Redis Jan 2026 – Mar 2026

- Architected a full-stack networking platform using layered Django REST architecture (Views → Serializers → Services → ORM), React/Next.js, and JWT-authenticated REST APIs.
- Built a fault-tolerant asynchronous image-processing pipeline with Celery, Redis, and Django signals; implemented exponential-backoff retries and generated 512-D InsightFace embeddings.
- Implemented ∼50 ms cosine-similarity matching using PostgreSQL/pgvector and attendee co-occurrence tracking with database-level uniqueness constraints to prevent duplicate interactions.

FinPulse | *GitHub* | Machine Learning, Django DRF, Celery, Redis, PostgreSQL Dec 2025 – Feb 2026

- Collaborated on a multi-person engineering team to build a financial risk platform, owning the end-to-end ML pipeline and feature-store architecture from data preparation through model inference.
- Architected the core ML inference engine (`MLModelService`) running 5 models (Credit Health Scoring, Default Risk Prediction, Anomaly Detection, Cash Flow Forecasting, and Financial Wellness Recommendation) with zero-downtime heuristic fallbacks.
- Designed a Star-Schema Data Mart (Fact/Dimension tables) to aggregate complex banking, GST, and ITR data into clean feature vectors for real-time model evaluation.
- Integrated ML risk evaluation pipelines into asynchronous Celery and Redis task workers, enabling non-blocking automated credit assessments across REST API endpoints.

ResolveIQ | *GitHub* | Python, FastAPI, PostgreSQL, pgvector, LangChain Aug 2026 – Sept 2026

- Built an LLM-based customer-support agent that classifies intent and drafts replies grounded in a brand's historical resolutions via a PostgreSQL/pgvector retrieval pipeline, outperforming a rule-based baseline by 105% (82.0% accuracy vs. 40.0%) on a hand-labeled evaluation set.
- Implemented a deterministic escalation-decision layer (confidence, retrieval-similarity, and sentiment thresholds) decoupled from the LLM call, producing an auditable auto-handle/escalate decision with a stated reason.
- Designed an evaluation harness combining automated metrics with an LLM-as-judge rubric (7.34/8 quality score), validating judge reliability against human labels at 0.78 Cohen's kappa, and ran failure analysis across the top error categories.

EDUCATION

Bachelor of Computer Science — Parul University, Gujarat 2023 – 2027
CGPA: 7.74/10

CERTIFICATES

- **ServiceNow Certified Application Developer (CAD)**
- **ServiceNow Certified System Administrator (CSA)**
- **AWS Cloud Practitioner Essentials**
- **HackerRank Software Engineer Certificate**

ACHIEVEMENTS

- **Competitive Programming:** LeetCode peak **1787** (Global Rank **1973**), CodeChef **1600+** (Global Rank **2663**), Codeforces **1215** (Global Rank **2932**).
- Selected for the **National Level of the HCL GUVI Hackathon** at the AI India Impact Summit.