JAY PANDYA

Dallas, TX, 75252 • jaypandya1161@gmail.com
LinkedIn: jay-pandya-0a289b199/ • GitHub: jpandya1161 • LeetCode: jpandya1161/

EDUCATION:

Master of Science (M.S), Computer Science — Jan 2024 - Dec 2025
University of Texas at Dallas, TX, USA — GPA: 3.67
Bachelor of Technology (B.Tech), Computer Science — June 2019 – May 2023
Charotar University of Science and Technology, GJ, India — GPA: 3.76

SKILLS:

Languages & Frameworks: Python (Scikit-Learn, PyTorch, TensorFlow, Keras), Java (Spring Boot, Hibernate), SQL, JavaScript, Next.js, Node.js, Express.js, Flask, Docker, Git
Generative AI & LLMs: LLM Orchestration (LangChain, LlamaIndex), Model Serving (FastAPI, vLLM/Ollama), OpenAI API, Hugging Face, RAG (Re-ranking), Fine-tuning (DPO, Reward Modeling), Prompt Engineering (CoT), BERT, GPT
Machine Learning & Data Science: Supervised/Unsupervised Learning (Regression, Decision Trees, Random Forest, Clustering, PCA), Deep Learning (CNN, RNN/LSTM, GAN, Transformers), Hyperparameter Tuning, Cross-Validation, A/B Testing
Cloud & Big Data Engineering: AWS (S3, Glue, Athena, RedShift, TimeStream, EC2), GCP, Databricks, PySpark, Kafka, Hadoop, HBase, Hive, Cassandra, MongoDB, PostgreSQL, Neo4j, Firebase
Analysis & Tools: ETL, Data Warehousing, Predictive Modeling, Grafana, Kibana, BotPress, Android Studio, PERT
Testing & QA: JUnit, Pytest, Selenium WebDriver, Integration Testing

PROFESSIONAL EXPERIENCE:

Intern – Backend Web Developer — Dec 2022 – May 2023
API Modernization and Maintenance, Kintu Designs Pvt. Ltd. (Link) — Surat, GJ, India
• Refactored legacy Node.js/Express.js APIs to modern ES6+ standards, boosting backend performance and code maintainability by 95%.
• Engineered RESTful endpoints handling 500+ requests per minute with 99% uptime, ensuring high availability for production services.
• Optimized data architecture by integrating Firebase with MySQL, resulting in a 20% reduction in query response times. Developed custom middleware for role-based access control (RBAC), significantly enhancing system security and scalability.

Intern – Backend Web Developer — May 2022 – July 2022
Hospital Management System (HMS) Web Application, Perfect Software (Link) — Nadiad, GJ, India
• Optimized data retrieval workflows for a Hospital Management System, reducing patient registration latency by 30%.
• Developed modular laboratory and inventory modules, increasing hospital operational efficiency by 20%.
• Designed a high-productivity dashboard with streamlined data flows, improving staff output by 15%.

ACADEMIC EXPERIENCE:

Flask/Firestore RESTful Authentication Service, University of Texas at Dallas (Link) — Nov 2025
• Engineered a secure, scalable RESTful authentication API using Python Flask and Google Firestore, optimizing API endpoints to achieve an average response time of under 50ms for user registration and lookup.
• Implemented an advanced JWT lifecycle management system featuring mandatory Refresh Token Rotation, which eliminated session hijacking risks via token replay attempts.

ESP32 Biometric Login System with Flask & JWT Authentication, University of Texas at Dallas (Link) — July 2025
• Built a secure biometric login flow integrating ESP32 face recognition with a Flask backend, enabling real-time authentication in under 1.2 seconds per request. Implemented JWT-based token lifecycle management, achieving 100% prevention of unauthorized dashboard access during testing.
• Collaborated across hardware, ML, and web domains; optimized Edge Impulse model inference on ESP32 to deliver more than 90% recognition accuracy in real-world conditions.

AI Multilingual Tutor-Bot with NLP, University of Texas at Dallas (Link) — Mar 2025
• Architected a multi-stage NLP pipeline using LangChain and Hugging Face to integrate DistilBERT for emotion classification and French grammar correction. Fine-tuned a DistilBERT model, achieving an 85% F1-score across 28 distinct user emotion categories.
• Integrated 3 separate NLP models (Sentence Prediction, Grammar Correction, Mood Detection) and engineered a multi-stage NLP pipeline for French grammar correction to achieve a verifiable correction accuracy of 92% on a corpus of French text.

Graph Watermarking for Data Security, University of Texas at Dallas (Link) — Nov 2024
• Designed a cryptographic watermarking algorithm in Python and Neo4j to embed digital watermarks into graph structures, ensuring data security and integrity.
• Achieved 95% accuracy in watermark extraction, even after structural modifications like node/edge additions and deletions.