Kunj Pandya

Jersey City, NJ | kpandya7@stevens.edu | +1-201-238-8424
linkedin.com/in/kpandya7 | github.com/kpandya7 | Portfolio

Professional Summary

Graduate student in Computer Science at Stevens Institute with expertise in Machine Learning, NLP, and full-stack development. Published researcher with hands-on experience in AI/ML applications, Computer Vision, and cloud computing. Proficient in building end-to-end systems from research to production deployment.

Education

Stevens Institute of Technology — Hoboken, NJ
Master of Science in Computer Science — *Expected May 2027*
- Relevant Coursework: Algorithms, Cloud Computing and Distributed Systems, Concurrent Programming

Dwarkadas Jivanlal Sanghvi College of Engineering, Mumbai University — Mumbai, India
Bachelor of Technology in Artificial Intelligence and Machine Learning — *May 2025*
- Relevant Coursework: Machine Learning, Deep Learning, High-Performance Computing, Big Data Analytics, Natural Language Processing, Advanced Data Structures and Algorithms

Technical Skills

Programming Languages: Python (Primary), C, C++, JavaScript, HTML, CSS, SQL
Frameworks & Libraries: PyTorch, TensorFlow, Transformers (Hugging Face), scikit-learn, XGBoost, LangChain, React, Flutter, NodeJS, Flask, Django
Databases: PostgreSQL, MySQL, SQLite
Developer Tools: Git, GitHub, Docker, Postman, Visual Studio, AutoCAD
Cloud Platforms: Oracle Cloud Infrastructure (OCI), Google Cloud Platform (GCP), AWS (Exposure)
AI/ML Specializations: Machine Learning, Deep Learning, Computer Vision, NLP, Reinforcement Learning, RAG
Methodologies: Agile, Scrum, Test-Driven Development, RESTful APIs, Microservices

Research Experience

Undergraduate Research Assistant — Mumbai, India
Dwarkadas Jivanlal Sanghvi College of Engineering — *June 2024 – June 2025*
- **Advisor:** Dr. Aruna Gawade, Head of AI/ML Department
- Spearheaded research on AI-driven ingredient recognition systems, leading to publication in Library Progress International (Vol. 44 No. 3, July 2024)
- Engineered Android application integrating Computer Vision and IoT sensors to monitor 500+ refrigerated items in real-time with 92% accuracy
- Architected intelligent recipe recommendation engine using ML cross-matching algorithms, reducing food waste by 30% through predictive expiration alerts
- Collaborated with cross-functional team of 3 researchers to design and deploy production-ready mobile application serving 100+ beta users
- Implemented data collection pipeline processing 10,000+ ingredient images for model training using Python, TensorFlow, and SQL

Research Intern - Placement Intelligence Platform — Mumbai, India
Dwarkadas Jivanlal Sanghvi College of Engineering — *January 2025 – June 2025*
- **Advisor:** Dr. Nilesh Rathod, Senior Professor
- Architected full-stack placement preparation platform serving 500+ students with company insights, alumni networking, and skill assessments
- Developed Resume Parsing system using NLP achieving 95% extraction accuracy across 1,000+ resumes in SQLite database
- Implemented Computer Vision-based confidence detection analyzing facial expressions and body language in mock interviews with 88% accuracy
- Engineered RESTful APIs using NodeJS handling 10,000+ requests daily; optimized database queries reducing response time by 40%
- Integrated Machine Learning recommendation engine personalizing study paths based on student performance data and job market trends
- Research paper under publication detailing system architecture, ML models, and deployment strategies

Independent Projects

LearnFlow: Adaptive Learning Companion | *OpenAI Whisper, GPT-4, LangChain, RAG* October 2025 – Present

- Engineering multimodal educational platform utilizing OpenAI Whisper API for speech-to-text transcription and GPT-4 for automated summarization of 100+ video lectures and PDF documents
- Architecting Retrieval-Augmented Generation (RAG) chatbot using LangChain and vector databases (Pinecone) providing context-aware doubt resolution with 85% user satisfaction
- Implementing adaptive quiz generation system using Reinforcement Learning algorithms to personalize study schedules, improving student retention by 25%
- Integrating semantic search across 5,000+ educational content pieces using embeddings and FAISS for sub-second retrieval
- Deployed using Docker containers on GCP with CI/CD pipeline; implemented unit testing achieving 90% code coverage

GenAI Prompt-to-App Platform | *Python, LLMs, Prompt Engineering, Flask, React* September 2025 – Present

- Developing low-code platform leveraging Large Language Models (GPT-4, Claude) to generate functional mini-applications from natural language prompts, reducing development time by 70%
- Implementing advanced prompt engineering pipelines translating user specifications into executable Python/JavaScript code with automated pytest testing
- Architecting system automating software development lifecycle including requirement analysis, code generation, testing, and deployment to cloud infrastructure
- Built React frontend with real-time code preview and collaborative features supporting 50+ concurrent users
- Enabling rapid prototyping of 20+ unique customized applications without traditional coding knowledge

Credit Risk Inference System | *Python, XGBoost, Flask, Django, PostgreSQL* December 2023

- Developed production-grade credit risk model using XGBoost analyzing 50,000+ borrower records including credit history, income, and loan amounts
- Achieved 95% accuracy and 0.85 AUC-ROC score through advanced feature engineering and hyperparameter optimization using GridSearchCV
- Deployed real-time inference API using Flask and Django serving 1,000+ daily predictions with 200ms average latency
- Implemented comprehensive data preprocessing pipeline handling missing values, outlier detection, and categorical encoding using scikit-learn
- Integrated PostgreSQL database with optimized indexing strategies; wrote complex SQL queries for aggregated analytics

Publications

"Revolutionizing Culinary Experiences: AI-Driven Ingredient Recognition" July 2024

- Published in Library Progress International, Vol. 44 No. 3 (Peer-reviewed)
- Presented novel approach to Computer Vision-based ingredient recognition with personalized recipe recommendations

"Optimized Placement Preparation Platform: A Comprehensive System" Under Review

- Research paper detailing NLP-based resume parsing and CV-based confidence assessment for interview preparation

Certifications

NVIDIA - Fundamentals of Accelerated Computing with CUDA (C/C++) November 2024
Oracle Cloud Infrastructure (OCI) AI Foundations October 2025
LinkedIn Learning - Java Essential Training: Objects and APIs September 2025

Leadership & Community Involvement

Organizing Committee Head | *Gujarati Intellectual Movement* 2019 – 2023

- Led organizing committee of 15 members managing 20+ educational and cultural events annually with 500+ participants
- Coordinated cross-functional teams for event planning, budget management ($10,000+), and community engagement initiatives

Education Volunteer | *Prayaas Organization* 2020 – 2023

- Volunteered 200+ hours teaching Physics and Mathematics to 50+ underprivileged students, improving average scores by 35%

Animal Welfare Volunteer | *Nature's Ally Foundation* 2022 – 2024

- Coordinated vaccination drives and food distribution programs serving 300+ street animals across local communities