

# Kalpiti Patel

kalpit.k.patel@gmail.com | 7029105046 | New York, NY | LinkedIn | Github | Portfolio

## Technical Skills

---

**Languages:** Java, Python, JavaScript, TypeScript, SQL, MongoDB, Terraform, Ansible, C/C++, Bash

**Frameworks:** SpringBoot, Maven, Kafka, React, Next.js, TailWind, RAGs, PyTorch, TensorFlow, Optuna, MLFlow

**Developer Tools:** Linux/Kernel Programming, Git, Docker, Vercel, AWS, Kubernetes, Jenkins, Jira, GCP, AI Agents

## Experience

---

### Inizio, Inc

May 2023 – May 2024

Software Development Intern

- Developed scalable, high-performance Full Stack software components for a SaaS startup using the T3 Stack (Next.js, TypeScript, TailWindCSS, NextAuth.js, Postgres, Vercel, tRPC, and Prisma).
- Designed dynamic, highly-optimized web interfaces to enhance user experience by 30%, as well as robust, well-documented, tested code with seamless integration of database schema and API.
- Used LangChain from OpenAI to design a native gen-AI platform for Product Managers (similar to Jira Scrum Model), refined the model to automate 50% of PM Life Cycle & Task Organization.
- Utilized Vercel for deployment and Github for version control, leading to a 12% decrease in merge conflicts and 33% boost in workflow & developer experience.

## Projects

---

### Housing Price Regressor | Python, MLOps, Optuna, MLFlow, Docker, AWS

Dec 2025 - Jan 2026

- Engineered an end-to-end production ML pipeline for housing price prediction using XGBoost, processing 50K+ records with 20+ features, enforcing strict data leakage prevention via time-based train/validation splits.
- Automated hyperparameter optimization across 30+ Optuna trials and integrated MLflow to track 1000+ experiment artifacts, improving RMSE by 18% over baseline models; added pytest-based unit, integration, and smoke tests covering 90%+ of pipeline and inference logic.
- Deployed a scalable AWS architecture using ECS Fargate (Dockerized FastAPI backend + Streamlit UI) behind an Application Load Balancer, achieving sub-200ms inference latency and fully automated CI/CD via GitHub Actions and ECR.

### E-Commerce Shopping Cart | Java, SpringBoot, Docker, Angular, Kubernetes

Aug 2024 - Sept 2024

- Designed and deployed a microservices-based e-commerce platform with 6+ Spring Boot services, containerized with Docker, secured via OAuth 2.0 (Keycloak), and orchestrated on a Kubernetes (Kind) cluster.
- Implemented an API Gateway using Spring Cloud, exposing 20+ REST endpoints, enabling inter-service communication and Kafka-based async email workflows, documented with Swagger/OpenAPI.
- Built a polyglot persistence layer using MySQL and MongoDB with Redis caching, reducing average request latency by 35%, and enforced rate limiting via Nginx with Kubernetes HPA-based auto-scaling.
- Developed an Angular frontend supporting full order lifecycle flows, implemented Resilience4J circuit breakers to handle multiple failure scenarios, and achieved 80%+ test coverage using JUnit, Mockito, and Postman while monitoring 15+ system metrics via Prometheus and Grafana.

### AI-RAG-Vector-Store | Java, Spring AI, Docker, Postgres

Jan 2025 - Feb 2025

- Built a Retrieval-Augmented Generation (RAG) system using Spring AI, indexing 1K+ PDF documents into a PostgreSQL pgvector store (768-dim embeddings), improving response relevance by 30%.
- Implemented 4 AI modalities (text-to-image, image-to-text, speech-to-text, text-to-speech) using OpenAI APIs, enabling multimodal querying with sub-second vector search latency and structured JSON-based retrieval.

## Education

---

### New York University

Aug 2025 – May 2027

M.S in Computer Engineering, concentration in Machine Learning

GPA: 3.8

### Purdue University

Aug 2019 – May 2023

B.S in Computer Science, concentration in Artificial Intelligence, Minor in Mathematics

GPA: 3.2

- Purdue Dean's List
- Purdue Semester Honors