

Vansh Patel

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EXPERIENCE

Software Engineer II

The Nuclear Company

June 2025 – Present, Lexington, KY

- Shipped Tablettop, an Electron desktop app Constellation Energy uses to assess physical security posture and run threat assessment simulations at its nuclear sites; became TNC's first revenue-generating product.
- Worked directly with Constellation as TNC's first paying customer, turning their requirements into shipped features; now onboarding Constellation's entire fleet.
- Built the floorplans feature end to end: hosted site floorplans and blueprints as GeoJSON mapped to buildings so security teams can run threat posturing floor by floor, backed by a SQLite persistence layer with fallback to the shipped site asset pack.
- Built a red flag site assessment that scored 100+ candidate sites across the US against 77 expert-defined criteria to surface the most viable locations for new nuclear deployment.
- On a 3-person engineering team, personally closed 98% of identified bugs in our Linear backlog over three months.
- Built Palantir Foundry mobile apps for nuclear site workers to manage tasks, schedules, and real-time communication, plus a hierarchical "shapes engine" map that zooms from fleet level to site level for facilities like VC Summer.

AI Solutions Developer

Center for Computational Sciences (CCS), University of Kentucky

October 2024 – April 2025, Lexington, KY

- Built a research platform with Next.js, TypeScript, and Tailwind CSS that brought AI into scientific workflows across 5 university departments.
- Developed a Python transcription and formatting system that turned hours of audio/video into structured data 2x faster than existing tools, and Chroma DB retrieval apps that improved data retrieval by 30%.

AIM Fellowship Researcher

Center of Applied Artificial Intelligence, University of Kentucky

May 2024 – August 2024, Lexington, KY

- Led geospatial visualization for RADOR-KY, building predictive models that flagged emerging opioid overdose hotspots and informed statewide public health interventions.
- Built a daily Python/GeoPandas data pipeline and ArcGIS Pro analytics tool serving 120+ Kentucky counties, cutting map generation time by 17%.

PROJECTS

SpeakUp

iOS app • SwiftUI • 2026 – Present

- Built and shipped a SwiftUI conversation and speech practice app to ~40 beta users via TestFlight.
- Runs transcription (WhisperKit) and LLM feedback fully on-device, so no audio ever leaves the phone.
- Implemented in-app purchases with StoreKit 2 and iterated on UI/UX and app architecture from beta feedback.

Machine Learning Engineer

Papa Johns • January 2025 – April 2025

- Built SARIMA, XGBoost, and LSTM forecasting models predicting store capacity, prep times, and delivery windows with 92% accuracy.
- Combined demand forecasts with real-time capacity analysis to generate dynamic 5-minute carryout and 15-minute delivery time slots.

EDUCATION

Bachelor of Computer Science

Minor in Mathematics • University of Kentucky • Lexington, KY • 2025

- Deans List: Fall 2023, Spring 2024, Fall 2024, Spring 2025
- Relevant Coursework: Machine Learning, Data Structures and Algorithms, Database Systems, Graduate Sequential Decision Making

SKILLS

- **Languages:** TypeScript, JavaScript, Python, Swift, C++, SQL
- **Frameworks & Apps:** React, Next.js, Electron, SwiftUI, Tailwind, SQLite, IndexedDB, MongoDB, RESTful APIs
- **AI/ML:** LLMs, WhisperKit, TensorFlow, PyTorch, Scikit-learn, XGBoost, NLP
- **Tools:** Palantir Foundry, ArcGIS Pro, GeoJSON, Docker, Git, Linear, Claude Code (AI-assisted development)