

OM M. PATEL

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SUMMARY

Applied AI Engineer Intern and Vector AI Scholar pursuing an MSc in Computer Science at York University. Build AI products, data pipelines, and NLP systems with Python, TypeScript, SQL, and cloud tools.

EDUCATION

Master of Science in Computer Science, AI Specialization

Sept 2025 – Expected Sep 2026

York University, Toronto, Canada

GPA: 3.63/4

Relevant courses: Data Mining; Probabilistic Models and Machine Learning; Data Analysis and Visualization.

SKILLS

Languages: Python, TypeScript, JavaScript, SQL

AI / ML: PyTorch, TensorFlow, Scikit-learn, Transformers, LangChain, RAG

Backend / Data: FastAPI, Flask, Airflow, Pandas, PostgreSQL, MongoDB, Supabase

Tools: GitHub, Docker, Vercel, Cloudflare, Jira, Postman

INDUSTRY EXPERIENCE

Applied AI Engineer Intern

Jun 2026 – Present

BarLens, Toronto / Remote

- Build and test AI features for a stealth hospitality product; triage edge cases and support production releases.

Backend & Data Engineering Intern

Dec 2024 – Aug 2025

Uarra, Nigeria (Remote)

- Built **Airflow ETL pipelines** for geospatial data in **Python**, increasing throughput by about 25%.
- Optimized **MongoDB** schemas and indexes for real-time ML and analytics queries.
- Tested APIs and shipped post-deployment fixes with engineering and ML teams.

Data Science Intern

Mar 2024 – Jul 2024

Uarra, Nigeria (Remote)

- Built **Flask** geocoding APIs and processed 10,000+ addresses, reducing reliance on external mapping APIs.

AI PROJECTS

Synapse AI: Teacher-Orchestrated Learning Platform

May 2026

- Built a **FastAPI** and **Next.js** learning platform with diagnostics, tutor streaming, classroom invites, and teacher analytics.
- Converted uploaded course material into notes, flashcards, quizzes, and podcasts.

TTC Interactive Dashboard: Service Dynamics & Delays

Jan 2026 – Apr 2026

- Built a **Streamlit** dashboard over 1.0M TTC bus and subway delay events using **DuckDB**, Parquet, static GTFS, and GTFS-RT alerts.
- Designed raw-to-gold marts, route/station linkage QA, and composite reliability metrics for repeatable route and time-window analysis.

See other projects at iampatelom.com/projects

RESEARCH & PUBLICATIONS

Low-Resource Gujarati Sentiment Analysis

Mar 2026 – Present

Research Assistant, Prof. Uyen T. Nguyen, York University

Manuscript in preparation

- Built a Gujarati sentiment pipeline across translated SST-2 and native GSAC data.
- Tested TF-IDF and MuRIL baselines with a disjoint GSAC evaluation split.
- Analyzed polarity shifts, negation, translation errors, and social-text noise.

LLMs for Optimization: Job Shop Scheduling Optimization

Sept 2025 – Dec 2025

- Built a GNN-assisted LLM pipeline by converting JSSP instances into disjunctive graphs and structured prompts.
- Cleaned the STARJOB dataset from about 130K records to 9,525 usable instances for fine-tuning.

ADCIS 2024 (Springer): Automated Sleep Stage Classification using Machine Intelligence Techniques

Sept 2024 – Jul 2025

- Co-authored a Springer review of **90+** sleep-staging studies, organizing signal modalities and PSG representations into an end-to-end taxonomy.

AWARDS

• Winner, AgentShyft Hackathon: Built Synapse AI

May 2026

• Vector AI Scholarship Recipient, York University

May 2025