

Tirth Patel

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+1 (647) 533-7957

Technical Skills

Languages: Python, Go, JavaScript, Java, SQL, Bash

AI/ML: LLMs, RAG, Agentic Frameworks, Vector Databases (pgvector), Prompt Engineering, Model Evaluation & Selection, LLM Observability, Langchain, NumPy, Pandas, Scikit-learn

Data & Databases: PostgreSQL, Elasticsearch, Firebase, Amazon S3

Frameworks: React, Spring Boot, FastAPI, Node.js

Tools & Infrastructure: Docker, Kubernetes, OpenShift, Jenkins, Git, ArgoCD, OpenTelemetry, IBM Instana

Experience

AI Software Developer

2024 - 2025

IBM

Markham, Ontario

- Architecting and developing AI solutions for IBM Concert, an IT resilience product, delivering a conversational assistant enabling enterprise users to query data, access documentation, and automate vulnerability remediation workflows through natural language, providing **intuitive chat-based access to agentic operations**.
- Engineered proactive diagnostic agents powered by **LLM-driven root cause analysis** and dependency mapping to autonomously detect cascading non-functional violations across enterprise systems and **generate prioritized remediation strategies** - reducing mean time to resolution and improving operational reliability.
- Built an **extensible plugin framework (Golang)**, enabling enterprises to customize product workflows by registering custom GenAI providers and integrating proprietary systems via API endpoints.
- Implemented **LLM observability** infrastructure to evaluate model performance through token usage, latency, response quality, and cost metrics—enabling data-driven model selection, regression tracking, and process optimization across production deployments.
- Collaborated with distributed teams worldwide to design system architecture and integration patterns covering UI, backend, and database layers—aligning technical standards and ensuring smooth data flow across multiple product components.

Software Developer

2021 - 2022

IBM

Markham, Ontario

- Engineered end-to-end **MLOps evaluation pipelines** in **Python** to benchmark 5+ AI algorithms within Watson AIOps.
- Implemented **automated regression detection** infrastructure using Argo CronWorkflow for weekly model performance monitoring, reducing manual testing overhead by 5+ hours per cycle and enabling continuous quality assurance.
- Developed automated **time-to-value metric collection system** with **visualization dashboards** in Redash and React, providing real-time insights into algorithm performance and deployment efficiency for cross-functional stakeholders.
- Established comprehensive testing framework using **Pytest** for algorithm validation and API integration testing.

Full Stack Developer

2020 - 2021

Tenders2Bid

Markham, Ontario

- Developed full-stack features for global bidding platform using **React** and **Python**, implementing real-time data interactions, responsive UI components with asynchronous data handling, and conducting code reviews to enhance platform reliability.

Education

BSc (Hons), Computer Science Co-op - Ontario Tech University

2018 - 2023

Projects

HireVis

- AI-powered job search tool developed to streamline the process of finding relevant job postings
- Built using SpringBoot (Spring Controller, JPA, Hibernate), LLM (OpenAI), MySQL, Web Scraping (JSoup)
- <https://github.com/dev-tirth14/HireVis>

Rendezvous

- Social media app for Android, specifically for event finding/creating
- Built using Flutter, Firebase, and Google Maps Platform
- <https://github.com/TirthPOnTechU/Rendezvous>