

Umad Akram

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EDUCATION

Ontario Tech University

Oshawa, ON

Bachelor of Science in Computer Science, Specialization in Artificial Intelligence

Expected Graduation: April 2028

EXPERIENCE

Shopify

May 2026 – Present

Software Engineering Intern

- Engineered infrastructure using **Python**, **MySQL** and **Kubernetes** to power Shopify Installments, supporting **10M+** daily payment events and improving system reliability across distributed payment services.
- Engineered an ML pipeline using **sklearn**, **Kafka** and **Airflow** that automatically identified root causes behind failing end-to-end tests and executed remediation workflows, resolving **15k+** flaky tests weekly.
- Built a high-throughput API orchestration service using **Kubernetes**, **Redis** caching, and **Kafka** to integrate Shop Pay Installments with Affirm financing systems generating around **\$900 million** in ARR.

Creation

Oct 2025 – Present

Machine Learning Engineer

- Developed a **Python** backend deployed on **AWS** that translated natural-language prompts into parametric CAD workflows, generating production-ready models and attracting a waitlist of **300+** engineers.
- Achieved **95%+** model accuracy on parametric CAD generation by training a custom **Reinforcement Learning** policy in **PyTorch** with PPO on **10,000+** design examples, using image based evals as the reward signal.
- Engineered the vector retrieval layer for the RAG pipeline, embedding and indexing **1,000+** designs in **PostgreSQL** for similarity search over past successful generations.

Canadian Imperial Bank of Commerce

Sept 2024 – Aug 2025

Software Engineering Intern - Co-op

- Designed a scalable LLM serving layer using FastAPI, Redis caching, and **Kubernetes** autoscaling to handle **25K+** daily prompt requests, reducing average response latency by 40ms.
- Automated **Kubernetes** infrastructure provisioning using Golang and Terraform across 150+ microservices, reducing environment setup time from **5 days to under 30 minutes**.
- Built a **Python** based log parsing framework to process **1M+** weekly network events, enabling structured analysis of large-scale telemetry and faster root-cause identification during incidents.

PROJECTS

TradeGuard | Python, Typescript, React.js, Gemini API, Moorcheh, MongoDB

- Built a real-time data pipeline in **TypeScript** to continuously ingest live data from **100,000+** active markets via the Kalshi API, persisting state, historical trends, and derived results in MongoDB.
- Designed a predictive scoring model using 14 quantitative signals through a **Python** analysis engine and the Gemini API, flagging anomalous behavior in real time and producing a 0–100 risk score.

DocFlow | Hack the North (Top 10 YC Finalist) | Python, Node.js, DynamoDB, Gemini API

- Engineered a documentation automation tool with **Node.js**, **GitHub Webhooks**, and Gemini 2.5 API to convert PR merges changelogs and Markdown docs, reducing update time from **2 hours to 10 minutes** per PR.
- Architected the backend with **DynamoDB**, **Python**, and AI-guided summarization to maintain an immutable history across **50+** merges, cutting onboarding time from **3 days to 1 day**.

Ride Vision | Go, TypeScript, React.js, Node.js, PostgreSQL, Docker, Nginx

- Developed a full-stack ride-hailing simulator with **Go**, **Node.js** simulation engine, and **React** Frontend, supporting real-time driver–rider matching, routing, and surge pricing for **1,000+ simulated trips**.
- Designed and containerized modular microservices with **PostgreSQL** persistence, Nginx reverse proxy, and **Docker** Compose orchestration, reducing deployment setup time from **30 minutes to under 5 minutes**.

TECHNICAL SKILLS

Languages: Python, Golang, JavaScript/TypeScript, SQL, Ruby

Frameworks/Libraries: React.js, Node.js, PyTorch, sklearn

Tools/Technologies: Git, AWS, Azure, Kubernetes, Airflow, Docker, PostgreSQL, MongoDB, Terraform

Relevant Coursework: Data Structures and Algorithms, Computer Architecture, Software Design, Linear Algebra