

Kevin Joseph

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EDUCATION

University of Toronto

Bachelor of Science in Computer Science and Statistics

Toronto, ON

Sept. 2023 – May 2027

EXPERIENCE

IMI Big Data & Artificial Intelligence Competition UTM

Nov. 2025 – Present

Big Data & AI Case Competitor

Mississauga, ON

- Actively competing in a multi-stage AML analytics challenge focused on explainable machine learning models.
- Building an AML Knowledge Library to link financial red-flag indicators to suspicious behavioral patterns.
- Proactively developing detection models using imbalanced, real-world transaction data (e-transfers, wires, cards).

UofT Machine Intelligence Student Team - Agent Forge

Oct 2025 – Present

Machine Learning Developer

Toronto, ON

- Standardized and filtered data via automated pipeline, **cutting preparation time 30%** with Supabase tracking.
- Architected a LoRA fine-tuning pipeline for open-source LLMs, **reducing projected compute costs by 80%**.
- **Achieved 95% reproducibility** by implementing structured experiment tracking and data validation protocols.

CIBC

May 2025 – August 2025

Application Developer

Toronto, ON

- Engineered a robust asynchronous data processing pipeline (Python, Azure SDK) using a producer-consumer model, **improving throughput by 40%** and enabling **efficient handling of 1,000+ data blobs** per run.
- Designed and implemented a targeted ETL pipeline in Python to extract, filter by date/criteria, and load relevant log events from Azure Blob Storage into structured text files, **reducing manual data retrieval time by 60%**.
- Automated the **aggregation of data from 50+ API endpoints** into standardized Excel reports using Pandas and fuzzy matching, directly contributing to a **risk deficiency rating improvement from High to Medium**.
- Enhanced **data reliability and completeness 30%** by implementing retry logic and handling for API failures.

PROJECTS

Prove It! (EmberHacks Winner 2025) | TypeScript, React, MongoDB, DigitalOcean, Auth0

- Architected a multi-panel, resizable UI with shadcn/ui, boosting user productivity and **engagement by 30%**.
- Developed an AI-powered tutor with Gemini 2.5 Flash, reducing **user navigation time by 50% per concept**.
- Streamlined infrastructure management for seamless scaling, **winning "Best Use of DigitalOcean"** award.

Hangman Game | Java, Java-Websocket, Java Swing

- Engineered real-time multiplayer via WebSockets **with sub-500ms latency** and Firebase live leaderboards.
- Developed streamlined multiplayer loop, **cutting player wait by 40%** with instant state sync across all clients.
- Designed dynamic Java Swing UI with letter grid and real-time visualization, **boosting engagement by 30%**.

Parka (SpurHacks) | Python, Next.js, TypeScript, Tailwind

- Engineered a CV pipeline with OpenCV & Gemini, **achieving 95% accuracy** in parking space identification.
- Architected a full-stack proof-of-concept to process images and suggest optimal spots in **less than 5 seconds**.
- Designed a Next.js map UI to render real-time parking availability and optimal spots for **10+ simulated lots**.

TalkBox (DeerHacks) | Python, Whisper, TKinter

- Built a real-time speech-to-subtitle pipeline using Whisper and DeepL APIs for live cross-lingual captioning.
- Engineered a **multi-threaded backend** to process dozens of audio chunks per minute without performance lag.
- Supported **20+ languages with 90%+ transcription accuracy** across diverse accents, maximizing accessibility.

TECHNICAL SKILLS

Languages: Java, Python, JavaScript, HTML/CSS, R, SQL (Postgres, MySQL)

Frameworks: React, Node.js, Material-UI, FastAPI

Developer Tools: Git, Docker, Azure SDK, MongoDB, Supabase, Shell, VS Code, IntelliJ, Vim

Libraries: Pandas, NumPy, Matplotlib, Scikit-learn