

Travis Pan

Computer Science and Finance

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EDUCATION

University of Waterloo

Bachelor of Computer Science and Finance (Double Major)

Waterloo, Ontario

Sep. 2023 – Jun. 2028 (Expected)

TECHNICAL SKILLS

Languages: JavaScript, TypeScript, Python, Java, C++, C#, C, SQL, Bash, PHP

Libraries & Frameworks: React, Next.js, .NET, Tailwind, PyTorch, scikit-learn, pandas, NumPy

Tools: Git, Docker, Linux, Selenium, Jira, Power BI, MongoDB, Excel, Microsoft Office

Certifications: AWS Cloud Practitioner

EXPERIENCE

Software Engineer

AlphaSense

Sep. 2025 – Present

New York City, New York

- Engineered large-scale **data pipelines** powering the Financials tab of the AlphaSense terminal, orchestrated with **Dagster** and deployed on **Kubernetes**
- Developed **NLP models** to extract entities and insights from financial filings and earnings reports, improving data quality and coverage for terminal analytics
- Designed backend **APIs and agentic AI workflows** to serve processed datasets and model insights reliably to client-facing financial research tools

Software Engineer

Government of Canada - PSPC

Jan. 2025 – Apr. 2025

Toronto, Ontario

- Built a production-ready **ML pipeline** with **Azure ML** to automate training, deployment, and forecasting
- Developed a full-stack **AI dashboard** using **Next.js**, **OpenAI APIs**, and **Recharts** that queries a **PostgreSQL** database to generate real-time data visualizations and perform inference using deployed ML models
- Built a hybrid **SARIMA-XGBoost** model for predictable costs and a **PyTorch-based LSTM** to capture nonlinear trends in PSPC's departmental spending
- Used **Docker** for containerization to ensure consistency and scalability

IT Analyst

Financial Services Regulatory Authority of Ontario

May 2024 – Aug. 2024

Toronto, Ontario

- Contributed to full-stack development of internal web apps using **React** and **.NET**, with automated regression testing via **Selenium**
- Implemented **RESTful APIs** to support dynamic front-end features, focusing on reliability and scalability
- Designed and optimized complex **SQL** queries to manipulate large datasets, improving runtime by **30%**

Junior Software Engineer

University of Toronto URECS

Aug. 2022 – Apr. 2023

Toronto, Ontario

- Implemented a **slime mould algorithm** to model emergent behavior in COBWEB simulations
- Migrated legacy **Java** modules in COBWEB2 to **Python**, improving maintainability
- Built test harnesses with **Bayesian optimization** for black-box parameter tuning of simulations

PROJECTS

LeetDance (Hack the North 2025) | *Next.js, FastAPI, MediaPipe, OpenCV, Gemini API*

- Built an AI dance choreographer that reviews user performance by extracting skeletal joint positions with **MediaPipe**, processing movement accuracy via **OpenCV**, and generating real-time scores and visual overlays
- Designed an end-to-end pipeline where uploaded footage is streamed through a **FastAPI backend**, analyzed with **Gemini API** for annotated feedback, and delivered to a **Next.js frontend** as interactive insights

Memory Melody | *React, Node.js, Express.js, OpenAI API, Auth0*

- Built a nostalgic imagery/soundtrack generator for a hackathon, integrating **Spotify API** for playlists and **Auth0** for user authentication
- Developed a full-stack web app with **React/TypeScript** frontend and **Node.js/Express.js** backend, using the **OpenAI API** and web scraping for dynamic content generation