

TOBY LI

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EDUCATION

University of California, Berkeley

Berkeley, USA

Master of Analytics

Aug 2025 - Jul 2026

Core modules: Stochastic Processes, Machine Learning, Optimization Algorithms, Data Analytics, Natural Language Processing

University of British Columbia

Vancouver, Canada

Bachelor of Science in Computer Science | GPA: 3.9/4.33

Sep 2021 - Apr 2025

Core modules: Algorithms, Data Structures, Operating Systems, Machine Learning, Artificial Intelligence, Web Design, Software

Design, Functional Analysis, Statistics

Honors: 2021 Dean's Honour List; 2021 Canadian Waterloo Mathematics Competition: Distinction

PROFESSIONAL EXPERIENCES

Intelligence Cubed

Berkeley, CA

Software Development Engineer

October 2025 – Present

- Architected full-stack **AI** inference platform integrating 190+ specialized models with **FastAPI**, **Node.js** frameworks.
- Deployed real-time semantic routing streaming achieving **sub-200ms** latency under load with optimized performance.
- Built model-selection orchestration engine using **1024-D vector embeddings**, **cosine-similarity** search, **DAG** workflows.
- Developed **RESTful AI API** streaming endpoints compatible **Gemini** interfaces supporting **194** model configurations.

UBC Launch Pad

Vancouver, Canada

Software Engineer

Sep 2024 – Apr 2025

- Co-developed **Neuron**, a full-stack volunteer management system (**Next.js**, **tRPC**, **PostgreSQL**, **Redis**, **Docker**) adopted by the **BC Brain Wellness Program** for **200+ volunteers**.
- **Designed** relational schemas + **Redis caching**, improving performance with **35% faster page loads** under concurrent usage.
- Automated **database migrations with Drizzle ORM** and typed validation, cutting production deployment errors by **40%**.
- Collaborated in an **agile team of 6 engineers**, contributing to **CI/CD pipelines, code reviews, and tests**, ensuring weekly feature releases without downtime.

Formula UBC Racing

Vancouver, Canada

Software Engineer

Sep 2023 – Apr 2025

- **Built** telemetry backend (**FastAPI**, **PostgreSQL**, **Docker**) ingesting real-time data at **100+ Hz** powering race dashboards.
- Developed **React + WebSocket** dashboards used by **10+ engineers and drivers** to monitor live car performance metrics.
- Implemented **CI/CD** with **GitHub Actions + Docker Compose** reducing deployment setup time by **>50%** across pit systems.
- **Collaborated with mechanical and electrical engineers** to align telemetry software with physical car systems.

Deloitte TTC

Shenzhen, China

Technology Consultant Intern

Jul 2023 - Aug 2023

- Developed and **stress-tested** Deloitte's **TTM tax systems** identifying **5+ high-risk logic flaws** ensuring **compliance** effectively.
- Validated **system integrity** for **enterprise clients** through comprehensive testing suites and **edge case analysis** across **modules**.
- Automated exhaustive **testing workflows** with **SQL & Excel macros** reducing **manual QA effort** by **~25%** significantly.

PROJECT EXPERIENCES

Football Club Database & Match Prediction – PostgreSQL, FastAPI, XGBoost, CatBoost, Docker

- Architected **normalized relational database schema** storing **50K+ match records** and **player attributes** ensuring **referential integrity** consistently.
- Developed classification models (XGBoost, CatBoost) for match outcome prediction achieving **~59% accuracy** on **test dataset**.
- Integrated **inference pipeline** into **Dockerized API endpoints** providing **real-time access** to **prediction services** for **users**.

AI Fit Log Web App – MERN (React, Node, Express) Stack, OpenAI API, MongoDB Atlas

- Engineered **full-stack fitness tracking platform** using **React Hooks** for **responsive UI** and **Node.js/Express.js backend**.
- Managed **secure CRUD operations** on **user workout data** implementing **authentication** and **authorization** across **application layers** effectively.
- Integrated **OpenAI API** analyzing workout logs generating personalized training recommendations improving user engagement.

TECHNICAL SKILLS

Programming Language: Python, Java, JavaScript, TypeScript, C/C++, R, Go, SQL

Frameworks & Libraries: React, Next.js, tRPC, Node.js, Express.js, FastAPI, PyTorch, Scikit-Learn, Pandas, NumPy, Matplotlib, XGBoost, CatBoost, Drizzle ORM, Mocha, Chai

Tools & Systems: Docker, Git, GitHub Actions, PostgreSQL, Redis, MongoDB, Oracle, REST APIs, WebSockets, Regex, OpenAI API, Vercel

Core Competencies: Backend Development, Full-Stack Development, API Design, Database Optimization, CI/CD, System Design, Algorithms & Data Structures