

DAVID ZHANG

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EDUCATION

University of Toronto

Sept. 2022 – May 2026

BSc. Computer Science, Statistics Minor

cGPA: 3.8/4.0

Relevant Coursework Algorithm Design & Analysis (A+), Theory of Computation (A+), Operating Systems (A+), Artificial Intelligence (A+), Programming Language Theory (A+), Software Design (A+)

SKILLS

Languages

Python, Java, C/C++, MATLAB, JavaScript/TypeScript, SQL, Bash, R, HTML/CSS

Technologies

Spring, Express.js, Node.js, MongoDB, MySQL, PostgreSQL, React, Angular, Linux, Git, Docker

WORK EXPERIENCE

University of Toronto, Department of Computer Science

Sept. 2024 – May 2025

Teaching Assistant

Toronto, ON

- CSC384 Artificial Intelligence: Graded assignments on CSPs, KR, & Bayesian statistics
- CSC236 Theory of Computation: Taught tutorials on algorithm correctness, complexity & automata
- CSC207 Software Engineering: Led labs on **Java** OOP, SOLID & software architecture

NLP Research Assistant

May 2024 – Aug. 2024

- Developed a neural machine translation engine using **Python** Meta NLLB for high- & low-resource languages
- Created a translation error detection pipeline beating benchmark accuracy by **22%** with CometKiwi, xComet & GPT4o

CIBC Capital Markets

May 2024 – Aug. 2024

Software Engineer Intern

Toronto, ON

- Developed a **Java Spring** stateless 2FA service authenticating **5k remittances/day** for Azure services
- Decommissioned **MySQL** DB for transient session management, freeing **3 VMs** in production by migrating FX session contexts to a **MongoDB** cache
- Integrated **Bash** script to **CI/CD** pipeline to auto-generate & deploy API docs to GitHub Pages on code commits

Software Engineer Intern

May 2023 – Aug. 2023

- Designed API architecture for a VISA integration to triple remittance options, helping drive a **2M USD/mo.** money movement increase
- Resolved a E2E **Spring** cookie vulnerability using **TypeScript** & **Java**, safeguarding **20 million** card numbers by building a robust session invalidation API
- Optimized in-memory caching & eviction for metadata, reducing request execution time from **200ms** to **4ms**

Stealth

Jan. 2023 – Mar. 2023

Software Engineer Intern

Toronto, ON

- Increased throughput & compute resources by **40%** with **JavaScript** through query indexing & **Node.js** clustering
- Developed a Slack notification service for real-time incident alerts with **Express.js** & **MongoDB**, increasing timely completion of vulnerability tickets by **24%**

PROJECTS

Automated Trading System | C++, MATLAB, Python

- Intraday equity arbitrage & trend-following

Advanced Data Structures & Algorithms Repository

- Solutions to select problems from CLRS & MIT's *Advanced Algorithms* (6.854) homeworks

HTTP Web Server | C++

- Multithreaded web server using **C++** with a fixed-size worker thread pool to handle concurrent HTTP requests

MISCELLANEOUS

Achievements

Trinity College Peter Larkin Scholarship, Trinity College Drew Thompson Scholarship