

# Andy Tran

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## EDUCATION

### University of Alberta

Edmonton, AB

*Bachelor of Science with Honors in Computing Science*

*September 2021 – May 2025*

- GPA: 3.9.
- *Relevant Coursework:* Parallel & Distributed Systems; Web Applications & Architecture; Software Engineering; Software Quality; Databases; Networks; Operating Systems; Algorithms; Computer Architecture & Organization.

## EXPERIENCE

### IT Solutions Developer Intern

Calgary, AB

*Ovintiv Inc.*

*May 2024 – August 2024*

- Built a **custom enterprise AI assistant** for the company's IT Knowledge Bases using **Azure OpenAI** and **Azure AI Search**, decreasing the time needed to search through 4500+ articles for 1000+ employees.
- Developed a high-performance data pipeline with **Python** and **FastAPI** to automate synchronization between a **ServiceNow** instance and an **Azure Blob Storage**, reducing manual entry time by 75%.
- Automated over 20 workflows in the ServiceNow IT Portal, saving 100+ hours of manual work per month.

### Undergraduate Teaching Assistant

Edmonton, AB

*University of Alberta*

*September 2023 – April 2024*

- Guided over 1000 students in CMPUT 201 (Programming in C) and CMPUT 204 (Algorithms) in mastering **data structures**, **algorithms**, and **C** programming fundamentals.
- Collaborated with professors to develop and deliver effective teaching materials, leading to a 10% increase in course satisfaction measured through end-of-term student feedback surveys.
- Evaluated assignments and exams, offering constructive feedback to enhance students' coding abilities and algorithmic understanding.

## PROJECTS

### Go Microservices | *Go, gRPC, Docker, Kubernetes*

- Developing a distributed microservices architecture in **Go** using **gRPC**, **REST**, and **AMQP**, supporting modular services for authentication, logging, email, and more.
- Deploying and scaling services with **Docker Swarm** and **Kubernetes**, integrating **PostgreSQL**, **MongoDB**, and **RabbitMQ** for robust data handling and message queues.

### VIMrly | *TypeScript, webpack*

- Developed a Chrome Extension that integrates Vim Motions into Google Docs, enhancing text editing efficiency and user productivity.
- Implemented modal editing features using **TypeScript** and **webpack**, ensuring clean code structure and seamless bundling of scripts and static files.

### NexaPulse Distributed Social Networking | *Svelte, Django, PostgreSQL*

- Developed a social networking web app using **Svelte**, with a focus on real-time communication with **AJAX**.
- Engineered a secure, scalable backend with **Django** and **PostgreSQL**, enabling features like user profiles, a follower-followee model, and content feeds.
- Built a distributed API network in collaboration with three other teams, allowing efficient cross-platform data sharing and communication through standardized API endpoints.

### Four-Color Map Theorem Solver | *Next.js, Flask, PostgreSQL*

- Developed an interactive map-drawing canvas using **Next.js** (with **React** and **TailwindCSS**) and **p5.js**, with Bresenham's line algorithm implemented for precise line rendering.
- Designed a backend infrastructure using **Flask** and **PostgreSQL** to handle map data, solve the Four-Color Theorem problem with an efficient backtracking algorithm, and deliver accurate color mappings in real-time.

## LANGUAGES AND TECHNOLOGIES

**Languages:** Go, Python, TypeScript, JavaScript, C, C++, HTML, CSS.

**Front-End:** React, Redux, Next.js, Svelte, webpack, Vite, TailwindCSS, MUI.

**Back-End:** Django, Flask, FastAPI, Go's net/http, chi, gRPC, PostgreSQL, MongoDB, RabbitMQ.

**Others:** Git, GitHub, Docker, Kubernetes, nginx, Postman, Microsoft Azure, ServiceNow.