

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

- Assisted in building a large language model for the company's IT Knowledge Bases utilizing **Python** and **Azure AI Search**, decreasing the time and effort required to search through numerous knowledge articles.
- Developed an efficient data pipeline with **FastAPI** to automate the synchronization process of more than 4500 knowledge articles between a **ServiceNow** instance and an **Azure Blob Storage**, reducing manual effort.
- Automated over 20 workflows in the ServiceNow IT Portal, saving hundreds of hours of manual work per month.

Undergraduate Teaching Assistant

Edmonton, AB

University of Alberta

September 2023 – April 2024

- Helped more than 1000 students in two courses - CMPUT 201 and CMPUT 204 - understand fundamental **data structures**, **algorithms** and **C programming** concepts during office hours and lab sessions.
- Collaborated with the course instructor to develop teaching materials and conduct review sessions, enhancing overall course effectiveness and student engagement.
- Graded assignments and exams, providing detailed feedback to help students improve coding skills and algorithmic thinking, thereby promoting continuous learning and improvement.

PROJECTS

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

- Developed a distributed microservices architecture in **Go** using **gRPC**, **REST**, and **AMQP** for inter-service communication, with services like authentication, logging, and email handling.
- Deployed and scaled services on **Docker Swarm** and **Kubernetes**, integrating **PostgreSQL**, **MongoDB**, and **RabbitMQ** to ensure high availability, seamless data storage, and efficient messaging for a modular system.

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 robust 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, with a robust JWT authentication mechanism.
- Collaborated with three other teams to build a distributed network of APIs to allow node-to-node connection between applications, enabling efficient inter-application communication.

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

- Developed a web interface and a map-drawing canvas using **Next.js** (with **React** and **TailwindCSS**) and **p5.js**, with Bresenham's line algorithm implemented for precise line rendering.
- Implemented a backtracking algorithm to efficiently color maps with no more than four colors and send them back to the users using **Python** and **Flask**, effectively solving the Four-Colour Map Theorem.

LANGUAGES AND TECHNOLOGIES

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

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

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

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