

# Andy Tran

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## EDUCATION

### University of Alberta

Bachelor of Science with Honors in Computing Science

- GPA: 3.9

Edmonton, AB

September 2021 – May 2025

## EXPERIENCE

### IT Solutions Developer Intern

May 2024 – August 2024

Ovintiv Inc.

Calgary, AB

- Assisted in building a large language model for the company's IT Knowledge Bases utilizing **Azure OpenAI** 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 **ServiceNow** and **Azure Blob Storage**, significantly reducing manual effort
- Automated over 20 workflows in the ServiceNow IT Portal, saving hundreds of hours of manual work per month

### Undergraduate Teaching Assistant

September 2023 – April 2024

University of Alberta

Edmonton, AB

- Helped more than 1000 students in two courses - CMPUT 201 and CMPUT 204 - with understanding 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 **Postgres**, **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 styles

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

- Developed a web interface using **Next.js** (with **React** and **TailwindCSS**) and **TypeScript** and a drawing canvas using **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

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

- Developed a social networking web interface using **Svelte**, with a focus on real-time communication with **AJAX**
- 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
- Engineered secure and scalable backend infrastructure with **Django** and **PostgreSQL**, integrating robust authentication and authorization mechanisms to ensure data integrity, privacy, and overall system performance

## TECHNICAL SKILLS

**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

**Cloud:** Microsoft Azure, ServiceNow

**Other Technologies:** Git/GitHub, Docker, Kubernetes, nginx, Postman