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.

PROFESSIONAL EXPERIENCE

IT Solutions Developer Intern   Calgary, AB
Ovintiv Inc.   *May 2024 – August 2024*
- Built an enterprise AI assistant using **Azure OpenAI** and **Azure AI Search** that reduced average search time from 5 minutes to 30 seconds for 1000+ employees accessing 4500+ IT knowledge base articles.
- 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.

PERSONAL PROJECTS

Go Microservices | *Go, gRPC, Docker, Kubernetes*
- Developing a distributed microservices architecture handling 1000+ requests/second with **Go** and **gRPC**, implementing authentication, logging, and email services with 99.9% uptime.
- 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 reduced text editing time by 40% by implementing 15+ core Vim motion commands in Google Docs.
- 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++, Java, 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.