Alan Bui

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Education

University of Waterloo (Bachelor of Computer Science) | 3.98 (93.6%) CGPA
René Descartes National Scholarship Recipient (~10 recipients in Canada)

Skills & Technologies

Languages: Python, JavaScript, TypeScript, Java, SQL, C, C++, HTML, CSS, R, Racket
Technologies: React.js, Node.js, Django, Angular, Flask, FastAPI, Vue.js, TailwindCSS
Tools: Git, Docker, AWS, PostgreSQL, GraphQL, MySQL, OpenCV, Firebase, Langsmith, Metabase, Windmill

Experience

Software Engineering Intern *May. 2025 – Present*
MedMe Health (YC W21) Toronto, ON

– Developed an AI agent to improve prompt generation and testing **efficiency by 95+%** using Python with Langsmith
– Automated the generation of a training dataset for AI Scribe with **15+ scripts** using Python, Windmill, and GraphQL
– Created analytics and feedback analysis system for **4000+ pharmacies** using PostgreSQL and Metabase

Undergraduate Researcher *Jan. 2025 – Apr. 2025*
UWaterloo Augmented Intelligence Lab Waterloo, ON

– Developed an AI earpiece to give real time instructions to simulated patients with a web socket server in FastAPI
– Generated realistic standardized patient profiles using data from Michael G. DeGroote School of Medicine

Research Assistant *July 2023 – Aug. 2023*
University of Windsor Windsor, ON

– Co-authored a research paper on the performance of LLM embeddings for molecular property prediction
– Developed tools to transform molecular structure text encoding into vector embeddings using **7 AI models**
– Applied **30+ statistical tests** in Python with sklearn, NumPy, pandas to find **LLaMA outperformed GPT**

Software Development Intern *Sept. 2022 – June 2024*
Windsor Chess Enrichment Program Windsor, ON

– Published a chess book with **30,000+ downloads** using Python to format text, annotations, and diagrams
– Developed a chess puzzle app with React, Node, and Firebase to enhance **100+ customers**' pattern recognition
– Designed and deployed the company website using GitHub Pages, leading to a **100% increase** in club membership

Projects

LooLooLoo | *TypeScript, React, Node, Docker, YAML, HTML/CSS*
Hack the North 2024 Winner (out of 1000+ participants)

– Developed an **interactive 3D indoor map** app using TypeScript and React on the front-end
– Implemented **shortest path navigation** using TypeScript and containerized the back-end using Docker
– Programmed ESP32 microcontrollers with YAML to detect phones' Bluetooth signal and text directions to nearby users

BeFit | *TypeScript, React, OpenCV, Mediapipe, TailwindCSS*
Hack Western 2024 Winner (out of 400+ participants)

– Developed a fitness app to compare **users' form with YouTube instructors in real-time** using Mediapipe
– Integrated an **AI chatbot** that uses retrieval-augmented generation to discuss the users' workout form
– Implemented **hand gesture controls** using Mediapipe for users to navigate the front-end built with React

The Mind | *TypeScript, Angular, PostgreSQL, Node, Python, Material UI, HTML/CSS*

– Developed a **multiplayer online card game** in TypeScript using WebSockets for real-time communication
– Designed and implemented an AI assistant in Python that suggests optimal moves with a **90% win rate**