Fangda Dai

+1 (506) 227-0180 | fdai@uwaterloo.ca | fangdadai.github.io/portfolio | in linkedin.com/in/fangdadai/

Skills

Languages: C++, Python, JavaScript, TypeScript, HTML5, CSS, SQL, C, Java, Bash
Technologies: Git, LangChain, React.js, Angular.js, Node.js, MySQL, Azure, FastAPI, SQLAlchemy
Certificates: Azure AI Fundamentals, Azure Fundamentals

Work Experience

AI Governance Project Assistant   **Jan 2025 – Apr 2025**
Government of Canada – Immigration, Refugees and Citizenship Canada (IRCC)   *Ottawa, ON*

- Developed an AI-powered internal web application using Python with **LangChain**, LangGraph, and the OpenAI API, applying a **RAG** architecture to support multi-agent workflows and improve efficiency across government departments
- Created and managed vector store indexes using Azure AI Search, implementing hybrid search to improve the accuracy and relevance of document retrieval
- Designed a self-reasoning node in the agent's workflow to reduce hallucinated responses, improving the reliability of agent outputs
- Built modular, reusable front-end components to optimize user experience and ensure long-term maintainability

Instructional Support Assistant   **May 2024 – Aug 2024**
University of Waterloo   *Waterloo, ON*

- Worked with professors to deliver CS246, an OOP course in C++ with over **250** students
- Created and maintained Bash/Python scripts to automatically test student submissions
- Conducted weekly tutorial sessions, addressed student inquiries during in-person office hours, and coordinated a group of **8** graduate teaching assistants for assignment grading
- Taught 2-hour review sessions before the exams, engaging over **100** students in each session

Application Developer   **May 2023 – Aug 2023**
Chongqing Yuntian Robot Technology Co., Ltd.   *Remote*

- Developed a mobile app GUI for a start-up company using Kivy and KivyMD frameworks in Python, which provides an e-commerce platform for aviation commodities
- Implemented sign-up functionality with email activation for security and recorded valid registrations in **MySQL** database
- Implemented a user login system, leveraging SQL queries for interaction with the database to authenticate users based on entered email/password

Projects

Portfolio Website (fangdadai.github.io/portfolio)   **Dec 2023**

- Designed a portfolio using React.js, JavaScript, and Tailwind CSS
- Deployed the website to Github Pages by modifying the GitHub workflow permissions

RAllnet   **Nov 2023**

- Developed a **2-player** (each with 8 pieces), turn-based strategy board game using C++
- Developed text-based and graphical interfaces (using X11/Xlib API) for user interaction
- Applied design patterns such as observer pattern and decorator pattern to update the gameboard after each move and add abilities to pieces at run-time
- Presented a **30-minute** demo to teaching assistants and received a **perfect score**

Education

University of Waterloo | Honours Bachelor, Computer Science   **Sept 2022 – Present**

- Recipient of President's Scholarship and International Entrance Scholarship (**$7,000**)
- **Relevant Coursework**: Algorithm, Design Patterns, OOP development, User Interface, OS