Andy Zhang

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TECHNICAL SKILLS

Languages: C/C++, Java, Python, MATLAB, R, SQL(Postgres), JavaScript
Web Technologies: HTML, CSS, Tailwind CSS, Bootstrap, Flask, Node.js, React
Tools/Frameworks: Git, Linux (Ubuntu), Windows, Docker, Valgrind, CMake, MongoDB

EDUCATION

Simon Fraser University   Jan 2023 – Sep 2026 (Expected)
Bachelor of Science
Honours in Computing Science with Minor in Statistics, 3.97 GPA

WORK EXPERIENCES

D-Wave Systems
Performance Research Intern   Sep 2024 – Current
· Conduct experiments on quantum processing units and software emulators.
· Test, maintain, and improve Python codebases for advanced quantum experiments.
· Evaluate and enhance experimental descriptions and data visualizations for both technical and non-technical audiences.
· Contribute to the preparation of technical reports and presentation materials.

SFU MAGPIE Lab
Summer Research Intern   Source Code On Demand | May – August 2024
· Applied pair-wise logistic regression to predict tuberculosis (TB) genetic cluster memberships using metadata from 11k patients. Model published in **Microbial Genomics** , 2023.
· Conducted cluster analysis with SNP cutoff and untimed maximum likelihood phylogenetic tree construction; applied PCA and lasso for dimension reduction.
· Utilized R and Python for data cleaning, visualization, and analysis, employing machine learning techniques for quantitative predictions.

PERSONAL PROJECTS

Personal Portfolio Website
React, JavaScript, HTML5, Tailwind CSS, Node.js, Fetch API   Source Code | July 2024
· Created an interactive portfolio website with a dynamic layout, focusing on modern UI design with various animations and transition effects to display personal projects and skills. **Link to website.**

ScholarSerpent Application
Python, Tkinter, ttkbootstrap, SQLite, Docker, SFU API   Source Code | May 2024
· Engineered a robust academic performance management app using Python and Tkinter, featuring dynamic UI updates and real-time data integration via the SFU API.
· Integrated SQLite for secure, optimized data storage, ensuring data integrity and enabling personalized grade tracking and historical performance analysis.
· Deployed the application across Windows and Mac using Docker, ensuring cross-platform compatibility with a responsive and adaptable interface.

Bank Simulation Program
C++, Python, Custom Data Structures, g++, Makefile   Source Code | Mar 2024
· Developed a C++ bank simulation with custom FIFO Queue, Priority Queue (Binary Heap), and Python testing scripts, showcasing expertise in OOP, data structures, and cross-language testing.

ACTIVITIES AND INTERESTS

Competitive Programming Club   May 2023 - Current
Wikipedia Editor and Contributor   Jan 2024 - Current