

SKILLS

- C | C++ | Python | JavaScript | TypeScript | Kotlin | Angular | HTML | CSS | SQL | GitHub | GitLab | Weka | Figma
- Linux | Bash | Frontend | Backend | Full-Stack | Google API | Firebase | Bootstrap | English, Mandarin, Cantonese – *professional proficiency*

EXPERIENCE

Software Developer

BlueBits Technologies

07/2022 - Current

- Developed and maintained a client management website using **Angular** with custom APIs, enabling remote control and mode customization for physical lockers.
- Restructured data retrieval process, moving from a promise-based approach to a more appropriate pagination + manual data retrieval system. This change resulted in >90% improvement in performance.
- Maintained cross-platform mobile applications for Android and iPhone using Angular. Achieved 150% increase in download count across iOS App Store and Google Play Store in the past year.
- *Technologies used: Angular (Typescript/HTML/CSS), Android Studio, Xcode, GitLab*
- URL: <https://dev.bluebits.ca/#/pages/login> (Requires login for confidentiality reasons. Please contact me for access)

Software QA

BlueMyth

05/2021 - 07/2022

- Utilized Android Studio to monitor machine and app performance, optimizing RAM usage and identifying potential issues, resulting in a 15% reduction in app crashes.
- Developed and implemented test plans and strategies, contributing to a 20% increase in overall test coverage.
- Conducted performance testing on the Android machine, optimizing API calls and reducing average response time by 18%.
- *Technologies used: Android Studio, GitHub, GitLab, ADB, Jasmine, Xcode, Angular, Typescript*

PAID PROJECTS

Client Relationship Management + Accounting Program

- Engineered a CRM & accounting solution in **Python** with **tkinter** GUI, **Google API**, and **MySQL**, achieving a 50% reduction in data retrieval time and 1200% boost in user error reduction compared to previous system.
- Pioneered an automated revenue reporting function to enable data analytic. This feature streamlined the business's analytical process, contributing to a 200% boost in overall accounting efficiency.
- URL: <https://github.com/lla105/AuTransactions> (Repo is private for client confidentiality reasons. Please contact me for access)

PROJECTS

Personal Portfolio Website

- Please visit the website link in resume header.

AI Class Project - Safe Interval Path Planning (SIPP)

- Developed and implemented **SIPP** search algorithms in **Python** for **Multi Agent Path Planning (MAPF)** via **Cooperative A*** and **Conflict-Based Search (CBS)**.
- Also implemented **Single Agent Path Planning** via **A*** and **SIPP**.
- Benchmarked the combination of the above four algorithms on diverse instances to analyze performance metrics like speed, nodes expanded, and memory usage. Instance classes include agents, map density, and obstacles.

Activity Audio Tracking Mobile App (Android)

- Collected activity data (standing, walking, running), applied **Weka for machine learning**, integrated the generated model into an app for real-time activity identification. Implemented Google Maps API to enable automatic GPS data tracking.
- Utilized core smartphone functions (eg gyroscope, accelerometer) to deduce speed & location.
- *Technologies used: Kotlin, Android Studio, Weka*

Other Projects:

- **Packet Forwarding & Client Server TCP Simulation** - A C++/Python program that demonstrates packet forwarding with Routing Table with a given destination IP address. In addition, it simulates client-server interaction over TCP with added functions for packet loss and corruption simulation.
- **Reconstructing RISC-V Architecture** - Rewrote RISC-V in C, showcasing expertise in low-level programming, system design, and bit-level operations for data manipulation.
- **Single Agent Path Finder** - Utilize **constraint programming**, **heuristic search**, **backtrack search**, **iterative search**, **combinatorial optimization** to path finding.

EDUCATION

Computer Science & Economics

Simon Fraser University

Burnaby, Canada 2020 - 2024(TBD)

- Core Topics: *Algorithm design, Data Structures, OOP, Database Systems (SQL), Operating Systems (Assembly, RISC-V), Networking, UX Design, System Security, Cryptography, AI Algorithms, Machine Learning Algorithms.*