

Skills

- C | C++ | Python | JavaScript | TypeScript | Kotlin | Angular | HTML | CSS | SQL | GitHub | GitLab | Weka | Figma
- Linux | Bash | Frontend | Backend | Full-Stack | Google API | English, Mandarin, Cantonese – All 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 button for retrieval system. This change resulted in >90% improvement in page load times.
- 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://box.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 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

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.
- URL: <https://github.com/lla105/417Project>

Activity Audo 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**
- URL: <https://github.com/lla105/MyRun2>

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. <https://github.com/lla105/417ASS1>

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.