BANGRUI FANG

fangbangrui@gmail.com | 6478331813 | North York, ON M2R 2P3 | **WWW:** https://bangruifang.com/ |
WWW: https://github.com/fangbangru

Highlights of Qualifications

- Second-year Computer Science student at McMaster University with a strong foundation in programming and software design.
- Proficient in Java, with hands-on experience implementing algorithms, data structures, and object-oriented designs, such as Data Structures and Algorithms and Introduction to Software Development.
- Experienced in relational databases and SQL through databases, including basic schema design and data querying using MySQL.
- Familiar with software engineering practices such as requirements engineering, software modeling, design patterns, architectural design, and implementation & testing.
- Strong interest in software and mobile development, actively applying course concepts to real-world projects and internships.

Skills

- Python
- Java/JS
- C++/C
- Swift
- HTML/CSS
- MATLAB
- Haskell
- PHP
- AutoCAD
- mySQL

Experience

04/2025 - 08/2025
Phase Advanced Sensor Systems Corp.
Edmonton, Alberta

Firmware & Software Engineer Intern

- Worked on an iOS app that communicates with hardware phase sensors over the Apple Lightning interface using SwiftUI and the ExternalAccessory framework.
- Helped design a command/response protocol and state machine so the app can safely send commands, read sensor status and logs, and recover from connection issues.
- Implemented a binary decoding and calibration pipeline using C++/Swift interoperability to convert raw frequency data into calibrated pressure and temperature values with polynomial models.
- Moved the heavy decoding work onto background queues so large sensor logs can be processed without freezing the UI.
- Built dashboard-style screens with charts, tables, and configuration pages, and added JSON/CSV export so engineers can easily explore and share measurement data.

12/2024 - 12/2024
Sumbot McMaster University
Hamilton, Ontario

Robot Competition

- Worked closely with a team of 4 members to plan and execute a robotics design and development project.
- Developed robot functionality using Arduino and C++ programming, including sensor integration and control algorithms.
- Facilitated team meetings, fostering communication and collaborative problem-solving.

- Partnered with one teammate to write and debug the robot's code using Arduino and C++ programming, focusing on sensor integration, motor control, and overall system functionality.
- Supported by two teammates who designed robot components, prepared materials, and fabricated parts using 3D printing technology.

Education and Training

Expected in 06/2028
Hamilton

Bachelor of Applied Science in Computer Science
McMaster University

- Current Grade-point average of 3.6 on a 4.0 scale.
- Relevant course: Engineering Mathematics, Computational Thinking, Computer Architecture, Development Basics, Introduction to Software Design Using Web Programming, Data Structures and Algorithms, Computer Architecture, Introduction to Software Development, Logical Reasoning for Computer Science, Automata and Computability, Concurrent Systems, Algorithms and Software Design and Databases.

Languages

English: C1
Advanced

Chinese (Mandarin): A1
Native/ Bilingual