XAVIER CHALIFOUX

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KEY QUALIFICATIONS

- Proficient in C, C++, Python, Ada, and JavaScript, with experience in large software systems.
- Expertise in algorithm development, optimization, and software scalability in software development.
- Proven ability to apply theoretical knowledge to real-world problems, such as improving robot performance and optimizing AI for competitive gaming.
- Strong collaborator in interdisciplinary teams, adhering to industry standards (DO-178C) and agile development (Scrum).

EDUCATION

Master of Computer Engineering   **Aug 2024 – Present**
Polytechnique Montreal   *Montreal, QC*

Bachelor of Electrical Engineering   **Aug 2020 – May 2024**
Polytechnique Montreal   *Montreal, QC*

SKILLS

Languages: C | C++ | Python | Assembly | Ada | HTML | CSS | JavaScript | MatLab | Simulink | Embedded C

Development Tools: Linux/Unix environments | GIT | Jira | Docker | Shell script | ROS | Grafana | InfluxDB

EXPERIENCE

Safety Critical Embedded Software Developer   **May 2024 – Present**
Mannarino Software & Systems   *Montreal, QC*
- Recertified a legacy aircraft project using Ada, focusing on software verification and safety standards.
- Developed and optimized test procedures, scripting tools to automate waveform data analysis, improving efficiency.
- Adhered to DO-178C safety standards while managing testing protocols and maintaining documentation for traceability.

Robotics Software Developer   **May 2022 – Sep 2023**
Nexus Robotics   *Saint-Bruno-de-Montarville, QC*
- Designed and optimized an algorithm in C++ to improve robot picking performance by 14%.
- Built a Python teleoperation script for Bluetooth-controlled robotics.
- Designed multiple Grafana dashboards using InfluxDB for real-time data monitoring.

NOTABLE PROJECTS

Abalone AI   **Jan 2024 – May 2024**
Polytechnique Montreal   *Montreal, QC*
- Developed a high-performance AI game engine in Python using Mini-max with alpha-beta pruning, achieving 34 tournament wins out of 40 games.

Automation of a Miniature Theater   **Aug 2023 – May 2024**
Polytechnique Montreal   *Montreal, QC*
- Led software development for automating stage lighting and scenery control, implementing PID controllers and WiFi communication.

AWARDS

Recipient of the Guillevin International Excellence Scholarship   **2024**
Polytechnique Montreal Foundation and Alumni Association   *Montreal, QC*