GARRETT WOODSON

garrett.woodson@mail.mcgill.ca| 604-764-0574|gwoodson1.github.io/ |linkedin.com/in/gwoodson/

EDUCATION

McGill University, 3.98 GPA   **Montreal, Canada**
BEng. in Software Engineering Co-op   **2022-2027**
- J.W. McConnell Scholarship: Awarded by McGill University based on high academic standing, qualities of leadership in community and school activities, and faculty recommendations.

SKILLS

- **Programming and Scripting Languages**: C++, Java, Python, JavaScript, C, C#, SQL, Bash
- **Frameworks and Tools:** Vue, React, Flask, Pandas, NumPy, Bokeh, ROS, Git, GitHub, Linux
- **Spoken Languages:** Native English, Intermediate French

ENGINEERING EXPERIENCE

Rogue Research   **Montreal, Canada**
Embedded Software Developer Intern   **May 2024-August 2024**
- Developed and tested C++ embedded software for the VetRobot, a microsurgical robot used in neurosurgery.
- Refactored the Server-Client communication protocol, improving maintainability and system resilience.
- Prevented robot crashes by implementing a boundary limit check for movement commands.
- Lowered minimum injection speed by 90%, overcoming compatibility issues by integrating a new Python API.
- Created a robot emulator to facilitate faster testing without relying on physical hardware.

McGill Robotics   **Montreal, Canada**
Software Team Member   **September 2023-August 2024**
- Contributed to software development of an autonomous rover designed to explore the surface of Mars.
- Utilized AI search algorithms (A*, Dijkstra's) to create a dynamic path planning algorithm for rover traversal.

Quebec Engineering Competition (QEC), 4th Place Junior Design   **January 2023**
- Won McGill Engineering Competition 2022. Placed 4th in Junior Design Competition at QEC 2023. Responsible for designing, constructing, testing, and presenting a prototype robot created to solve a real-world problem.

PERSONAL PROJECTS

Full-Stack Game Retail System   **December 2024**
- Developed a full-stack online game retail store using Java Spring Boot, Vue.js, and PostgreSQL, implementing a layered architecture with RESTful APIs and features like inventory management and user role permissions.
- Achieved 90%+ test coverage with 700+ unit and integration tests, ensuring reliability and functionality.

Swimmer-Instructor Pairing Application   **August 2024**
- Led development of a full-stack web application using Python Flask and React.js to streamline swimmer-instructor pairings for a local non-profit offering swim lessons to children with disabilities.
- Implemented features to upload and filter data, create pairings, and automatically assign lesson times.

Interactive Movie Voter   **May 2023**
- Composed an interactive web application designed to help users decide what movies to watch with friends.
- Integrated IMDb datasets to provide users with over 400,000 movie titles to choose from.

Detailed Descriptions of these and additional projects available at gwoodson1.github.io/

LEADERSHIP EXPERIENCE

The Cube   **Montreal, Canada**
3D Printing Operations Manager   **March 2023-May 2024**
- Oversaw a team of eight technicians to facilitate the reception, production, and delivery of additive manufacturing orders for students, researchers, and the public.
- Increased number of orders by 90% and sales by 239% by streamlining order process.
- Performed regular maintenance and troubleshooting on six FDM and SLA printers.