William Marcus

Ottawa, Ontario, Canada

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GitHub Profile
LinkedIn Profile
Portfolio Website

Education

•Carleton University *4th Year Standing | Expected Graduation: April 2026*

Bachelor of Computer Science Honours (Co-op) Overall CGPA: 10.87/12 | Major GPA: 11.33/12

Experience

•Dayforce HCM *January 2025-August 2025*

Software Developer In Test Intern Remote

- Developed and executed automated test scripts using the FitNesse framework that reduced manual testing efforts by 90%
- Designed comprehensive test cases and strategies to increase code coverage to 100%, leading to higher quality releases and a more robust application.
- Optimized existing test automation scripts to achieve over a 50% reduction in execution time.
- Engineered and implemented robust C# FitNesse fixtures to significantly enhance test coverage

•Bank of Canada *May 2024-August 2024*

Full-stack Developer Intern Ottawa, Ontario

- Developed PHP, JavaScript, HTML & CSS in 5 of the Banks major websites including BankofCanada.ca
- Worked in an agile team with code review processes, daily scrum meetings, and weekly sprint plannings
- Thoroughly tested code using PHPunit and Behat tests to ensure effective and non-broken code

•Bank of Canada *May 2023-March 2024*

Application Developer Intern Ottawa, Ontario

- Migrated Jira application data to upgraded version in JavaScript using Node, Axios & REST API
- Programmed in Javascript with various frameworks such as React js for more efficient and user friendly interfaces
- Created a ticket management tool using Node js to archive and keep track of requests

Personal Projects

•Pac-Man Reinforcement Learning Simulation *December 2025*

https://github.com/WillMarcuss/Pac-Man-RL-Project

- **Tools & technologies used:** Python | NumPy | Pygame | Matplotlib | JSON-based Q-table serialization | Gymnasium-style custom environments | Linear Function Approximation | Neural Networks | PyTorch |
- **Description:** Developed a fully functional Pac-Man–style environment as part of a 4-member group project, featuring multiple maps, ghosts, pellets, and reward shaping. Implemented several RL agents (Dyna-Q, SARSA, DQN, PPO) and evaluated their performance across diverse map sizes and state spaces, achieving successful policy learning and environment-adaptive behaviors.

Technical Skills

Languages: Java, Python, C, C++, JavaScript, HTML, CSS, SQL, PHP, C#, Gherkin

Concepts: Object Oriented Programming, Data Structures, Polymorphism, Inheritance, Encapsulation

Tools/Frameworks/Libraries: Java Swing, JavaFx, Java AWT, Pygame, Node.js, React.js, Angular.js, REST API, Axios, .NET, WPF, FitNesse, Selenium, PHPUnit, JUnit, Jest, Cucumber, Cypress

Professional Skills

Version Control: Git, GitHub, GitHub Actions (CI/CD)

Development Methodologies: Agile, Scrum, Sprint Planning, Code Review

Testing Practices: Unit, Integration, and Regression Testing; Test Automation; Selenium; Cypress

Languages: Fluent in English and French (oral, reading, and writing)

Achievements

•C J Mackenzie Scholarship: Yearly Scholarship achieved by retaining a 10.82 overall GPA *September 2024*

•Deans Honours List: Award given by achieving a minimum of 10.0 GPA *May 2024*