

Michael Giovannini

TECHNICAL SKILLS

Languages/Frameworks: C, Java, Python, HTML, CSS, JavaScript, React, Flask, MySQL, Assembly

Operating Systems: Windows, MacOS, Linux

Development Tools: Vite, Git, GitLab, GitHub, Maven, VS Code, Microsoft Office

PERSONAL PROJECTS

MTG Advisor (React, Flask)

- **Developed a full-stack AI-powered** financial analysis tool that leverages insider trading data from U.S. senators to generate predictive insights on stock movements, using React for the frontend and Flask for the backend.
- Integrated live and historical stock market data to cross-reference with insider trade filings, enabling real-time analysis and investment advice generation.
- Utilized **Vite** for rapid frontend development, ensuring a fast and responsive user interface, and implemented **RESTful APIs in Flask** to handle data processing and communication between frontend and backend.
- Collaborated in a team environment, using Git for version control to maintain seamless collaboration and a clean codebase.

Deep Q-Learning Agent for Snake (Python)

- Designed and implemented a reinforcement learning agent using Deep Q-Networks to play the Snake game autonomously.
- Managed exploration vs. exploitation using an epsilon-greedy strategy with linearly decaying ϵ across episodes.
- Designed a neural network with PyTorch using a 2-layer architecture with 11 input features, 256 hidden units, and 3 output actions to approximate the Q-function.

EDUCATION

Bachelor of Computing, Computer Science (Co-op)

University of Guelph | Guelph, ON

Sept. 2023 - Present

GPA: 3.8/4.0

Relevant Coursework: Object-Oriented Programming, Data Structures, Web Design and Development, Software System Development and Integration, Operating Systems, Structures and Applications of Microcomputing

Academic Projects

- **vCard Management System:** Used MySQL, Python and C to create a complete vCard system that allowed users to manage their vCard contacts through a MySQL database with a Python front-end and C backend
- **Portfolio Management System:** Developed a Java-based investment portfolio management system, applying object-oriented programming principles for modular and scalable architecture.

WORK EXPERIENCE

Groundskeeper, Town of Grimsby

May 2024 – Aug. 2024

- Developed strong teamwork skills by collaborating with a partner to plan, and execute required tasks effectively to maintain landscape appearances