

Michael McVicar

902-229-5031 | m2mcvica@uwaterloo.ca | [LinkedIn](#) | [GitHub](#) | michaelmcvicar.com

EDUCATION

University of Waterloo

Waterloo, ON

BASc. in Systems Design Engineering

Expected Graduation: May 2027

- Option in Artificial Intelligence | Relevant courses: Data Structures and Algorithms, Digital Computation

EXPERIENCE

Software Developer Intern

Sep. 2024 – Dec. 2024

Rich Media

Toronto, ON

- Designed and developed enterprise-level web applications for major tech companies using **Next.js**, integrating **microservices** and optimizing database queries, directly contributing to **\$400M+** in annual client revenue
- Integrated scalable **RESTful APIs**, handling **500K+** daily requests and reducing API response time by **15%**
- Built web tools for **30M+** users at leading financial institutions, enabling dynamic data visualizations with **D3.js**
- Optimized **React** components by minimizing re-renders and streamlining logic, reducing load times by **20%**
- Increased test coverage to **85%** by developing unit, integration, and E2E tests using **Cypress** and **Jest**

AI/ML Software Engineer

Jul. 2024 – Dec. 2024

WAT.ai

Toronto, ON

- Created and deployed a custom convolutional neural network with **TensorFlow** and **Keras**, achieving **90%** accuracy in detecting student engagement by analyzing facial cues from live video streams
- Constructed a real-time admin dashboard with **Flask**, enabling visualization of engagement metrics and seamless integration with existing school CCTV systems for continuous monitoring of student attention levels
- Automated data collection by scraping videos based on targeted keywords from the **Gemini API** using **PyTube**, converting videos into frame-by-frame images to gather **10K+** data points for model training

Front-end Developer Intern

Jan. 2024 – Apr. 2024

TD Bank

Toronto, ON

- Developed and scaled a design system with **100+** reusable components, accelerating front-end development by **30%** and ensuring a cohesive user experience for **15M+** users across TD's web and mobile platforms
- Revamped TD's credit card application flow using **React** and **TypeScript**, streamlining form validation and enhancing cross-platform functionality, resulting in a **10%** reduction in drop-off rates
- Led **25+** usability interviews, translating user feedback into design enhancements that aligned with business goals
- Collaborated with QA teams to identify and resolve critical bugs, reducing deployment issues by **25%**

PROJECTS

Ripple 🌀 | React, Supabase

Jul. 2024

- Built a full-stack web app for sharing and verifying facts, utilizing **Supabase** for scalable backend architecture, with real-time **Postgres** syncing and efficient **CRUD operations** to handle user submissions
- Created a dynamic voting system with category filtering and live updates, leveraging state management to synchronize user interactions and ensure data consistency, boosting community engagement
- Boosted SEO by implementing targeted keywords and meta tags, leading to a **35%** increase in organic traffic

UW Blueprint 🌀 | React, Figma

Sep. 2024

- Designed a web application for a nonprofit serving vulnerable women, improving access to services and support programs for **100+** users by implementing comprehensive navigation and efficient resource management tools
- Collaborated with project stakeholders, leveraging Agile methodologies to accelerate project timelines by **20%**, aligning design updates with business objectives for seamless cross-team implementation

TECHNICAL SKILLS

Languages: Python, JavaScript C/C++, TypeScript, SQL, PostgreSQL, HTML/CSS

Frameworks: Node.js, Next.js, Tensorflow, Express.js, Flask, PyTorch, Angular, Cypress, Bootstrap, TailwindCSS

Developer Tools: Git, Docker, AWS, Jenkins, Kubernetes, Terraform, Google Colab, VS Code, Figma

Libraries: React, MongoDB, OpenCV, NumPy, Scikit-learn, Keras, jQuery, Three.js, Matplotlib