Michael Andrew Tham

✉ m3tham@uwaterloo.ca 📞 647 871 3382 🔗 michaeltham.vercel.app in m3tham ⊙ MichaelATham

Education

University of Waterloo *Expected April 2026*
BASc in Computer Engineering

- **Coursework:** Compilers, Real-Time OS, Algorithms and Data Structures, Systems Programming and Concurrency
- **Relevant Programming Languages:** Java, Linux , C, C++, Verilog, VHDL, Python, ARM Assembly
- **Awards:** President's Scholarship of Distinction

Experience

IAM Software Engineering Intern *Dearborn, Michigan*
Ford Motor Company *Jan 2024 – April 2024*

- Spearheaded the decoupling of critical Java endpoints enveloped in a complex monolithic application exceeding 100,000 files, leveraging microservices architecture to achieve a **60%** reduction in latency and enhance system uptime
- Independently implemented fixes to existing code to pass 42Crunch conformance scans and company security standards
- Introduced rate limiting to mitage API Abuse, Brute Force attacks, and DDoS attacks directed toward IAM services
- Leveraged Springboot tools to parallelize cucumber acceptance tests and reduce deployment time by **75%**
- Maintained **100%** Jacoco branch coverage and Pitest mutation test standards through accurate and thorough unit tests

Software Development Intern *Richmond Hill, Ontario*
NOVX Systems *May 2023 – Aug 2023*

- Implemented medical image uploading and support for specialized software using C# tailored with LINQ and Amazon S3
- Created and modified various SAP Crystal Reports used for Patient Monitoring, ensuring timely access to critical information
- Introduced filters for medicines, users, and notes, simplifying and reducing the average time to find vital information by **52%**
- Optimized application features to meet OMD certification requirements, ensuring user login occurs in under **30 seconds**

Software Engineering Intern *Dearborn, Michigan*
Ford Motor Company *Sept 2022 – Dec 2022*

- Developed a full-stack web application using React and Node.js that automates vehicle service scheduling and inquiries
- Leveraged Test Driven Development through REST API validation using Jest, ensuring application robustness and reliability
- Maintained continuous integration, delivery, and monitoring of pipelines using Tekton, Terraform and SonarQube
- Utilised Google Cloud Platform (GCP), Firestore, and Redis for scalable data storage and real-time synchronization

Software Engineering Intern *Richmond Hill, Ontario*
Qvella *Jan 2022 – May 2022*

- Developed a full-stack web application using Angular, TypeScript, C#, and SQL Server to efficiently manage Qvella devices and customers, deployed on Amazon Web Services (AWS) for reliable availability
- Designed, tested, and validated RESTful APIs for seamless interaction with a SQL Server database for data storage and retrieval, implementing OAuth 2.0 with Microsoft Entra ID (formerly Azure Active Directory) for data security
- Digitized the managing and communication of advanced Sepsis testing machines, eliminating 33% of on-site maintenance costs

Software Development Intern *Richmond Hill, Ontario*
Qvella *July 2020 – July 2021*

- Directed the design and development of Python software for rapid Sepsis testing
- Coordinated virtual meetings, showcases, and installations throughout the COVID-19 pandemic
- Reduced pollution in labs by over 80% through the creation of paperless production lines using Python, increasing production of Positive Blood Culture samples by 70% through the automation of manufacturing

Software Development Intern *Richmond Hill, Ontario*
NOVX Systems *Sept 2019 – Jan 2020*

- Built Angular software to administer workplace impairment tests, significantly enhancing injury detection and management
- Engaged with customers to capture key requirements and translate them into measurable deliverables

Projects

speech2tex: Equations to LaTeX made easy *Ongoing*

- A tool capable of converting spoken math equations into their LaTeX equivalent
- Developed in Python, utilizing OpenAI's Whisper for Speech Recognition, a trained Hugging Face model for Natural Language Processing, and JavaScript for frontend and web integration