MICHAEL ANDREW THAM

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EDUCATION

University of Waterloo Expected 2026

Bachelor of Applied Science in Computer Engineering *Waterloo, Ontario*

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

WORK AND LEADERSHIP EXPERIENCE

IAM Software Engineering Intern Jan 2024 – April 2024

Ford Motor Company *Dearborn, Michigan*

- 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 enhanced system uptime
- Independently implemented fixes to existing code to pass 42Crunch conformance scans and company security standards
- Introduced rate limiting to reduce chances of 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 May 2023 – Aug 2023

NOVX Systems *Richmond Hill, Ontario*

- 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 Sept 2022 – Dec 2022

Ford Motor Company *Dearborn, Michigan*

- 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 Jan 2022 – May 2022

Qvella *Richmond Hill, Ontario*

- 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 July 2020 – July 2021

Qvella *Richmond Hill, Ontario*

- Oversaw design and development for Python software used for the rapid testing of Sepsis
- Organized meetings, showcases, and installments over the course of 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 Engineering Intern Sept 2019 – Jan 2020

NOVX Systems *Richmond Hill, Ontario*

- Developed software used to administer a workplace impairment test, greatly increasing injury detection and management
- Youngest developer on a team of experienced Software Engineers

Robotics Club President May 2018 – June 2021

Thornhill Secondary School *Thornhill, Ontario*

- Fostered and designed creative activities and challenges for members to complete at home during COVID-19
- Guided students through the electronic design/implementation to participate in **VEX Robotics** competitions

PROJECTS

Speech2TeX (WIP) August 2024 - Present

- A passion project with the aim 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