

# MICHAEL ANDREW THAM

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## EDUCATION

### University of Waterloo, Waterloo, Ontario

Bachelor of Applied Science in Computer Engineering

Class of 2026

- University of Waterloo President's Scholarship of Distinction recipient

## TECHNICAL SKILLS

**Database Management** – SQL Server Management Studio (SSMS), Cloud Firestore, Microsoft Access, MongoDB, Redis

**Programming Languages** – Python, Java, JavaScript, TypeScript, C, C++, C# (including LINQ), SQL, React, CSS, HTML, Verilog

**Cloud-Based Services** – Azure Active Directory, Amazon Web Services (AWS), Google Cloud Platform (GCP)

## WORK AND LEADERSHIP EXPERIENCE

### Software Engineering Intern – IAM, Ford Motor Company

Jan 2024 – April 2024

Dearborn, MI

- Spearheaded the decoupling of critical endpoints within a 100k+ file monolith, reducing latency by 60% and improving uptime
- Independently implemented fixes to existing code to pass 42Crunch conformance scans and meet 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 test times from over 1 hour to 15 minutes
- Maintained perfect Jacoco branch coverage and Pitest mutation test standards through accurate and thorough unit tests

### Software Development Intern, NOVX Systems

May 2023 – Aug 2023

Richmond Hill, ON

- Implemented DICOM (Digital Images and Comms. in Medicine) support for PatientVu™ using C#, LINQ, and Amazon S3
- Developed filters for medicines, users, notes, and more through the creation and modification of SQL queries
- Created and modified various SAP Crystal Reports used for Patient Monitoring, Prescriptions, and Documentation
- Optimized features to follow **OMD certification** requirements, such as logging into the application in **under 30 seconds**

### Software Engineering Intern, Ford Motors

Sept 2022 – Dec 2022

Dearborn, MI

- Developed front-end in React and back-end with Node.js used for Fleet Management aimed towards commercial usage
- Leveraged Test Driven Development through the creation of mock adapters with Jest that are used to validate REST APIs
- Maintained continuous integration/delivery using Tekton to create pipelines, implementing Terraform and SonarQube
- Utilised FOSSA to monitor pipelines and cloud run for the deployment of the application

### Software Engineering Intern, Qvella

Jan 2022 – May 2022

Richmond Hill, ON

- Independently developed a Customer Relationship Management (CRM) web application from start to finish
- Built and tested RESTful APIs to communicate with live servers through Postman and other web services
- Utilised Amazon Web Services (AWS) to deploy applications in buckets to live users of Qvella machines and services
- Successfully automated the creation, configuration, and communication of cutting-edge Qvella machines

### Part-time Software Engineering Intern (High-School), Qvella

July 2020 – July 2021

Richmond Hill, ON

- Oversaw design, development, and updates for 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
- Increased the production of Positive Blood Culture samples by **70%** through the automation of manufacturing

### Software Engineering Intern (High-School), NOVX Systems

Sept 2019 – Jan 2020

Richmond Hill, ON

- Developed software used to administer and record the results of a Workplace Impairment Test
- Youngest developer on a team of experienced Software Engineers

### Robotics Club President, Thornhill Secondary School

May 2018 – June 2021

Thornhill, ON

- Designed and fostered creative activities and challenges for members to complete at home during COVID-19
- Successfully fostered a passion for robotics and engineering within the student body despite COVID-19 limitations
- Guided students through the electronic design/implementation to participate in **VEX Robotics** competitions

## PROJECTS

### TeX2Speech (WIP)

August 2024 - Present

- A passion project with the aim of converting spoken math equations into their LaTeX equivalent.
- Expected tools include Python for realtime Natural Language Processing, GPT for parsing / interpretation, and JavaScript for frontend and web integration