

Aiden Ma

a76ma@uwaterloo.ca | [linkedin.com](https://www.linkedin.com) | github.com | [Personal Website](#)

EDUCATION

University of Waterloo

Bachelor of Math in Honors Computer Science

Waterloo, ON

Sep. 2024 – Apr. 2029

St. Robert CHS

International Baccalaureate Program (IB)

Thornhill, ON

Sep. 2020 – Jun. 2024

PROJECTS

Python Data Manipulation Scripts | *Python, Selenium, Pandas, Beautiful Soup*

June 2020 – Present

- These python scripts were created to quickly convert data from one format to another format. Many of these scripts were used to generate SQL statements from input lists of data, adhering to preexisting data structures, utilizing a variety of different python libraries.
- **Key Features:** Processing arbitrarily large amounts of data. Automating tedious tasks. Automatic web scraping and outputting of data in a clean fashion. Data transformation. Data migration.

Administration Systems | *Flutter, Node.js, Express, Postgres, AWS, Google Play Store, Excel*

June 2023 – Present

- Created a proof-of-concept administration system to make collecting, storing, and processing camp data easier for city recreation staff. Created the front-end, back-end, and integrated it all with a database, as well as deploying a beta application to AWS and to the google play store as well. The application collected data, aggregated it over many different entries, and provided easy access through nicely formatted excel workbooks.
- **Key Features:** Excel workbook data export. Following all best practices for data security. Created an Android App and a Web app. Seamless integration between all parts of the application. Multi-level access (different levels of users get different access).

Google Extension | *Node.js, HTML/CSS/JS, jQuery, Chrome Extension*

April 2022 – June 2022

- A chrome extension that tracks how long websites are open for, and provides detailed statistics on the tabs that have been opened. Statistics include but are not limited to how long tabs are open for, the number of times a tab is opened, how many times a tab is viewed, if a tab is open in the background for a lot longer than it is viewed, and which tabs are visible on one (or more screens) even if it is not focused on, for the longest.
- **Key Features:** Stores data persistently. Collects, aggregates, and displays relevant information in high detail.

FTC Robot | *OnShape, Fusion360, Android Studio, OpenCV, Canva*

September 2021 – June 2024

- Created multiple highly competitive robots from scratch.
- Utilized CAD software to create highly detailed, efficient, and effective robots.
- Used a variety of materials including Aluminum, Steel, Polycarbonate, MDF, etc.
- Won many high level robot design and performance awards at every competition.
- Utilized machine learning and computer vision to make the robot's autonomous more reliable and more effective.
- **Key Features:** Fully custom design, highly efficient, and cost effective.

EXPERIENCE

Markham Recreation Camp Administration App Contracting

Jan. 2024 – Jun. 2024

City of Markham

Markham, ON

- Developed a proof of concept mobile application and admin website using Flutter, Node.js and PostgreSQL to streamline camp management and improve the experience for city staff.
- Implemented secure login and encryption using standard industry practices to ensure data protection and compliance with standards.
- Coordinated with clients to identify project requirements, applying agile methodologies to adapt the project to meet client needs.
- Oversaw technical development across mechanical, software, and business subteams to ensure collaboration and efficiency, resulting in a competitive robot design and presentation.
- Generated client accounts programmatically using data automation scripts to save the client hours of manual work and enabling quick onboarding of users.
- Published the mobile app in beta onto the Google Play Store to provide a more accurate representation of the final product to the client.

- Created data aggregation scripts to create data reports of camp information to simplify the process of accessing and processing camp information.

Rams Robotics Team Captain

Sep. 2021 – Jun. 2024

St. Robert CHS

Thornhill, ON

- Led the design and manufacturing of multiple competition robots using Fusion 360 and OnShape CAD software to ensure efficient, effective builds for optimal performance.
- Managed the tight budget to ensure that money's value is maximized for most effect.
- Coordinated software and hardware teams using project management tools to ensure seamless interoperability, meeting competition deadlines and improving team efficiency.
- Oversaw technical development across mechanical, software, and business subteams to ensure collaboration and efficiency, resulting in a competitive robot design and presentation.
- Developed leadership in new members by providing hands-on training in CAD, programming, and business operations, to build their skills and prepare the team for the future.
- Secured funding and resources for the team by leading outreach efforts and coordinating with sponsors, ensuring the team had the necessary materials to compete.

Math Club & Math Team President

Sep. 2020 – Jun. 2024

St. Robert CHS

Thornhill, ON

- Competed on behalf of the school in multiple national mathematics competitions.
- Competed at a high level at the school in computer competitions.
- Led weekly problem-solving and competition prep sessions using collaborative problem-solving techniques to improve team readiness and enhance competition performance.
- Organized events and guest speaker sessions with a focus on math applications and career insights to foster interest and increase engagement among members.
- Managed club operations, and recruitment using strategic planning and outreach to maintain a growing, active membership.
- Led workshops for coding competitions by teaching key programming skills and problem-solving methods to help members develop competitive coding capabilities.

Manager & Technical Lead on the Markham Mayors Youth Council

Sep. 2022 – Jul. 2024

City of Markham

Markham, ON

- Managed, maintained, and update the website using eJS and cPanel.
- Developed custom software to scan & track attendee attendance, and prototyped other software.
- Managed a team planning multiple events, from small to large.
- Contributed to event planning, future member selection, and fixing any/all technical issues.

Student Council Grade Representative

Sep. 2020, 2024

St. Robert CHS

Thornhill, ON

- Listened to and voiced student concerns.
- Created, planned, and run events for students.
- Presented ideas to create a better experience for students at the school.

TECHNICAL SKILLS

Languages: Java, Python, C++, SQL (Postgres), NodeJS/JavaScript, HTML/CSS, Racket

Frameworks: React, Node.js, WordPress, Bootstrap, Tailwind

Developer Tools: Linux, Git, Docker, VS Code, Visual Studio, PyCharm, IntelliJ, Android Studio, Eclipse

Libraries: Tensorflow, pandas, NumPy, Matplotlib, Selenium