

# Shubho Mukherjee

Toronto, ON, Canada

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## SUMMARY OF QUALIFICATIONS

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- Proficient in a wide range of programming languages and developed strong foundations in both functional and object-oriented languages through academic coursework and practical application in various software development projects.
- Proven ability to communicate, collaborate and work effectively in a cross-functional team as demonstrated through working as a Junior Developer at Metropolitan Aerospace & Combustion Hub and Co-Founder of Rocketry Club.
- Excelled in university courses in Computer Science by consistently achieving top grades and demonstrating a deep understanding of programming concepts.

## TECHNICAL SKILLS

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**Programming Languages:** Java, Python, JavaScript, PHP, SQL, HTML-CSS, C, Bash

**Tools & Frameworks:** Git/Github, ExpressJS, NodeJS, Linux/UNIX, JQuery, Excel (Pivot Tables, VLOOKUP), Tableau

## WORK EXPERIENCE

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**Metropolitan Aerospace & Combustion Hub**, Toronto, ON

Mar. 2023 – Present

Junior Developer

- Developed real-time control and monitoring of a liquid rocket engine by creating an efficient GUI using **Python** and **PyQT** framework, resulting in a **30% reduction** in engine valve testing time.
- Collaborated with a team of **200+** members including developers, engineers, and technical directors to conceptualize and develop a liquid-propellant rocket for competition at Launch Canada annually.
- Shaped the front-end layout, designed custom widgets, and implemented front-end improvements, resulting in increased productivity by **40%** and a more intuitive and user-friendly interface for mission control.

**Rocketry Club - Danforth CTI**, Toronto, ON

Nov. 2021 – May. 2022

Vice President & Co-founder

- Founded and led a rocketry club, fostering a collaborative and supportive environment of **100+** students, promoting knowledge sharing, creativity, and camaraderie among team members.
- Demonstrated leadership by orchestrating **5+** successful launch events and meticulously coordinating work schedules for each sub-team, resulting in an optimal design and implementation of the rocket's body and recovery system.
- Employed innovative problem-solving techniques to resolve unique challenges and ensure successful outcomes, fostering a culture of adaptability and critical thinking among the members.

## EDUCATION

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**Bachelor of Science (Honours) in Computer Science, Co-op**, Toronto, ON

Sep 2022 – Exp. Apr 2026

Toronto Metropolitan University

- **Awards:** 95%+ Entrance Scholarship, Faculty of Science Dean's List (2022-2023)
- **Extra Curricular:** Toronto Metropolitan BAJA Racing Club (Electrical Officer), Practical Applications of CS (Member)
- **Coursework:** Python OOP, Java OOP, C and Unix, Data Structures, Linear Algebra, Web Development
- **CGPA:** 3.89/4.33

## PROJECTS

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**Collab - Whiteboard Website** | Javascript, ExpressJS, NodeJS, HTML, CSS

July 2023

- Developed a real-time collaborative whiteboard website, promoting seamless collaboration, while using fewer resources than other applications.
- Implemented synchronization features using **Socket.IO** to ensure consistent updates across multiple users, fostering a collaborative and interactive online environment.
- Utilizing **NodeJS** and **ExpressJS** to handle user requests, manage sessions, and persistently store whiteboard data.
- Showcased robust **UI/UX** design expertise by crafting a responsive and intuitive user interface using **HTML** and **CSS**. Prioritized user-friendliness and essential functionality, resulting in a seamless experience across diverse devices.

**Stop Sign Detection** | Python, NumPy, OpenCV

March 2023

- Developed a precise stop sign detection model using a sliding window approach and mean square error for similarity comparison.
- Implemented image pyramids for optimized stop sign detection at different scales, ensuring real-time processing and improved performance.