

## Boluwatiwi Mafikuyomi

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### EDUCATION

#### McMaster University | Major: Electrical Engineering

Expected May 2028

- *member*, National Society of Black Engineers | *member* McMaster Mock Trials | *member* McMaster Midnight Association | *Executive team intern* Paper Trails Society

#### Niagara Christian Collegiate | High School Diploma | 93% average

- *member*, NCC Model UN | *Executive Council Member*, Student Council | *Member*, NAVS Athletic Leadership Team | *Member*, Health leadership Community | *Volunteer* Math Tutor

**Honors & Awards:** Koledoye Award for Creative Writing, Eleanor Roosevelt Award for Diplomacy, McMaster Engineering Competition Finalist.

### EXPERIENCE

#### Research Assistant

May 2025 – August 2025

##### Learning Factory | McMaster University

- Developed a comprehensive simulation model of a residential microgrid using Simulink.
- Integrated solar generation, energy storage systems, and a realistic residential load profile.
- Simulated the system under various scenarios: normal grid-connected operation, outages, and islanded modes.
- Optimized the microgrid for cost, efficiency, and reliability by adjusting battery and PV sizing.
- Evaluated system performance metrics such as state-of-charge, energy autonomy, and unserved energy.

#### Research Assistant

May 2024 – December 2024

##### Learning Factory | McMaster University

- Worked on development of car Chassis and frame, utilizing SolidWorks for forward drive RC car.
- Worked on development for Manufacturing Executional System for the factory, utilizing Visual Code and C.
- Developed a dynamic web application using Flask, Python, HTML, CSS, JavaScript, and MongoDB. Implemented a secure user authentication system and designed an intuitive dashboard that provides real-time updates on 3D printing projects, including status tracking and upload management.

#### Technological Development Team

April. 2024 -Current

##### Pathway Pavers

- Founding member of a student outreach program alongside a group of motivated black University students.
- Organize monthly webinars, student outreach programs and workshops for black high school students.
- Developed a website for students to easily access information on scholarships, opportunities e.t.c.

#### Project Manager

February. 2024 - March. 2024

##### Flex View | McMaster University

- Led a team in the design and development of an adjustable rear-view mirror prototype for electric wheelchairs to enhance visibility and independence for users with mobility challenges.
- Managed the entire project lifecycle, including initial research, design, prototyping, and final delivery. Ensured that the prototype was user-centered, focusing on portability, ease of use, and cost-effectiveness.
- Oversaw team collaboration, addressed structural issues, and guided the team in iterating design solutions to meet the client's specific needs.
- Delivered a functional and innovative product that significantly improved the client's quality of life.

### Projects

#### Flexview

Designed a durable, portable and maintainable tool that provided our client with a wider range of vision.

#### ScotiaBuzz

Utilized Tailwind, React.Js and Typescript to design a reactive web platform that aids Scotiabank clients detect fraudulent messages.

#### LED PCB board

Designed a full PCB board, successfully creating schematic symbols, footprints, PCB stackup, set up layers and generated output files for manufacture (Pick and place, Assembly drawing layers, Gerber, NC Drill and BOM).

### SKILLS

MATLAB & Simulink | Altium | Microsoft PowerPoint | Microsoft word | Microsoft Excel | Tableau | Python | SQL | MongoDB | Solidworks | Autodesk Fusion 360 | Arduino IDE | Raspberry pi | Html & CSS | Python |