

Manush Patel

437-922-5853 | patem258@mcmaster.ca | [in LinkedIn](#) | [Github](#) | [Portfolio](#)

Engineering student passionate about embedded systems and firmware development for real-world applications.

EDUCATION

McMaster University

B.Eng in Computer Engineering

- **Engineering Award of Excellence** – Top 10% of Faculty

Hamilton, ON

September 2024 - Present

EXPERIENCE

Firmware Developer

Formula Electric

Hamilton, ON

September 2024 - Present

- **Optimized** vehicle firmware by transitioning from **Simulink models** to **C++**, improving compilation time by **20%**
- Engineered a **CAN Bus traffic monitor** to regulate message flow across **4+ microcontrollers**, preventing data loss under high bus loads.
- Developed **Git/GitHub** and **Markdown** documentation to simplify firmware comprehension, contributing to the team's **website**.

Commission Sales Associate

Tiptop Tailors

Brampton, ON

June 2022 - June 2024

- Increased **customer satisfaction by 20%** and **repeat business by 10%** by providing personalized assistance and attention to detail.
- Measured clients for tailored suits and guided them in selecting outfits for weddings and special events, ensuring the perfect fit.

PROJECTS

NavAid: Tactile Braille Navigation System | *Raspberry Pi, Python, OpenCV, AI, OCR*

- Designed an **AI-powered navigation aid** for blind/deaf users, extracting key street sign data in **real-time**
- Implemented **OpenCV** and **EasyOCR** to process live camera input, improving speed and accuracy.
- Engineered a **Raspberry Pi-powered tactile braille system** for real-time street sign conversion.

Personal Portfolio Website | *React, HTML, CSS, JavaScript*

- Built a **responsive portfolio** showcasing projects, experience, and skills.
- Integrated a project gallery and contact form to enhance user engagement.
- **Deployed and managed** a React-based site with smooth transitions, improving navigation and user experience.

EXTRACURRICULAR INVOLVEMENT

AngelHacks Winner | *Raspberry Pi, Python*

- **Won 1st place**, securing a **\$500 US grant** to launch the school's first hackathon, giving students a platform for tech innovation.
- Programmed a series of interactive minigames on a **Raspberry Pi Pico**, demonstrating skills in hardware and game design.

Hackathon Organizer | *Event Planning, Leadership*

- **Led** the district's **first-ever hackathon**, coordinating a team to manage recruitment, logistics, and fundraising.
- Attracted over **100+ participants**, collaborating with other clubs for advertising, resulting in a **10% increase** in tech club enrollment.

TECHNICAL SKILLS

Languages | C/C++, Python, Java, LaTeX, Swift

Embedded Systems | CAN Bus, Microcontrollers

Libraries | NumPy, Matplotlib, Yfinance

Developer Tools | Git, VS Code, Visual Studio, PyCharm, Jupyter Notebook