Aaron Rajan

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EDUCATION

McMaster University (B.Eng.Mgt)   Hamilton, ON
*Bachelor of Computer Engineering and Management, **GPA: 3.7/4.0***   *Sep. 2020 – Apr. 2025*
- McMaster Honour Award ($1,000) | Dean's Honour List (Fall 2020 - Winter 2022, Fall 2023)

TECHNICAL SKILLS

Languages: Python ● Java ● Verilog ● C/C++ ● YANG ● JavaScript ● MATLAB ● R ● SQL
Web Development: HTML ● CSS ● Flask ● React.js ● Node.js ● TailwindCSS
Tools: Git/GitHub ● Jira ● BitBucket ● Arduino ● Raspberry Pi ● Linux ● Confluence ● Agile ● Apache Airflow

EXPERIENCE

Software Developer Intern ⧉   May 2024 - Aug. 2024
Scotiabank   *Toronto, ON*
- Designed an interactive UX using **Python**, with **Flask** for backend and API handling, integrating **HTML**, **CSS**, and **JavaScript**, enabling non-functional testing on tasks in **Apache Airflow** for **4+** lifecycle environments.
- Followed the methodology of **DevOps** to build a **Bash** script capable of deploying code across **BitBucket**, 4+ different lifecycle environments, and containerized environments using **Docker**.
- Created a script to accelerate the process of comparing 2 files across different lifecycle environments and dates by **80%** using **Python**, **Linux**, and **SQLite**.
- Expanded functionality for monitor tool to work in new environments by establishing a connection to an **Oracle** database using **Python**, **Linux**, and **Apache Airflow** to send out **10+** emails daily.

Software Intern ⧉   May 2023 - Aug. 2023
Ciena   *Ottawa, ON*
- Utilized **Python**, **C**, and **YANG** to establish a wacsim to manage test suites and improve client experience.
- Improved memory efficiency of a test suite by **40%** using **Linux shell script** and **Python File I/O**.
- Tested changes in hardware by upgrading from **3+** different states to ensure the behaviour is as expected.
- Applied skills in version control (**Git**, **BitBucket**, and **Jira**) to seamlessly integrate my changes with the team.

PROJECTS

Self-Sustaining Intelligent Greenhouse ⧉ | *Full-Stack Developer*   Sep. 2024 - Apr. 2025
- Developed a dashboard with **Python**, **JavaScript**, **HTML**, and **TailwindCSS** to display real-time sensor readings and AI-driven recommendations, ensuring seamless real-time monitoring and user interaction.
- Developed LSTM models using **Python** and **TensorFlow** for time-series predictions, and **ResNet-50** for plant health detection, integrating with **AWS RDS MySQL** for real-time sensor insights and AI-driven automation.

Autonomous Vehicle System ⧉ | *Embedded C++ Developer*   Jan. 2025 - Mar. 2025
- Engineered a self-driving vehicle system in **C++** using **PX4/NuttX RTOS**, integrating real-time control of motors, steering, and LEDs through **uORB** and **MAVLink** protocols.
- Integrated **Python** scripts on **Raspberry Pi** for camera and ultrasonic processing, enabling obstacle avoidance.

EXTRACURRICULAR

Open-Source Team Member ⧉   Sep. 2023 – Apr. 2024
Google Developer Student Club | McMaster University   *Hamilton, ON*
- Followed **Agile** principles with a team of developers to design a learning platform using **Ubuntu**, consisting of various features to enhance users' learning by **40%**.
- Created a user interface using **Flask**, **HTML**, and **CSS**, while implementing features from the **Figma** designs.
- Implemented a database for storage using **SQL** for the back-end of the website, designed with **Python libraries**.

Circuitry Sub-Team Member ⧉   Sep. 2021 – Apr. 2023
Chem-E Car Team | McMaster University   *Hamilton, ON*
- Collaborated with **10+** teammates to design a car that can travel a set distance of 50'-100' carrying a load, using **C/C++**, **Linux** shell scripting, an **Arduino** and **Raspberry Pi**, and soldered circuits.
- Created and maintained the club's website using **HTML**, **CSS** and **JavaScript** to improve club outreach by **40%**.