Mahad Hassan

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EDUCATION

McMaster University
Honours Software Engineering Co-op, B.Eng (3.9 GPA)

May 2027
Hamilton, ON, CA

- Received an **entrance scholarship** for exceptional performance.
- **Relevant Courses**: Data Structures & Algorithms | Object-Oriented-Programming | Discrete Math I,II | Calculus I,II,III | Linear Algebra

EXPERIENCE

Engineering Intern
Ras Laffan Power Company (RLPC)

July 2023 – August 2023
Ras Laffan Industrial City, Qatar

- Summer intern at RLPC (supplies **half** of Qatar's power and water) primarily focused on **OT Cybersecurity and DCS**
- Performed **Anti-Virus definition updates** and completed **switch configurations** via Putty
- Completed engineering configurations **for controllers, I/Os, HMIs,** and **Historians** using Developer Studio

Guest Registration Assistant
McMaster HCS

Nov 2023 – Present
Hamilton, ON, CA

- Ensured campus safety by working **night shifts** and signing in students as part of **McMaster's Housing & Services**
- Managed a specialized registration system to keep campus security and admin up to date
- Conveyed **strong interpersonal skills** as to allow students a welcomed entry

PROJECTS

ProjectMatch Website | *HTML, CSS, GIT, JavaScript*

- Designed a **front-end** website with a team of 3 students for **NASA's Space Apps** hackathon
- Produced the website using **HTML** and **CSS** for collaborators around the world to share, create, and join all types of projects
- Implemented **JavaScript** and **Git** to function filter commands and back-end
- Managed team members and scheduling to give sufficient time for designing and creation **within 2 days**

Digit Recognizer AI | *Python (TensorFlow, Matplotlib)*

- Developed an AI that can accurately **identify hand-drawn digits** ranging from 0 – 9 with **99.3% accuracy**
- Implemented a total of **8 layers** within the **Convolutional Neural Network (CNN)**
- Utilized **Matplotlib** to display bar graphs with the model's predictions and respective confidence levels per class
- Trained the AI on **60,000** images and tested it on **10,000** images from the **MNIST dataset**

Tic-Tac-Toe AI | *Python*

- Compiled an **unbeatable Tic-Tac-Toe AI** by implementing the **Minimax Function** using **Object-Oriented Programming**
- Shaped the user interface using **PyGame**, allowing the user to pick between **PVP**, **PVE (AI mode)** and to be **X** or **O**

Q-Arm Sterilization System | *Python*

- Managed a team to create a **Python** program for a **Q-Arm** to transfer surgical tools into autoclaves **for sterilization**
- Exploited **actuation and remote sensing** to control the autoclaves and Q-Arm

TECHNICAL SKILLS

Programming:
Languages: Python, HTML/CSS, Java, JavaScript, MATLAB, BASH
Technologies & Tools: Windows, MacOS, GitHub, Visual Studio Code, PyCharm, Jupyter, GIT, Anaconda, Putty
Libraries: TensorFlow, Matplotlib, NumPy, Pygame, Pandas

Other Skills:
AutoCAD, MS Office, Quanser, Social Media Marketing, Computer Assembly, Management, Data Analysis, Multilingual