TANISHA TASNIN

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https://tasnint.github.io/portfolio-website/

EDUCATION

McMaster University

Bachelor of Engineering in Software and Biomedical Engineering
- McMaster University Award of Excellence, Fall 2022; Deans' Honour List, Winter 2023;
- Relevant Courses: Data Structures and Algorithms, Computer Architecture, Digital Systems and Interfacing, Introduction to Software Development, Discrete Mathematics, C and Bash Scripting, Object Oriented Programming, Genetic Engineering

TECHNICAL SUMMARY

Experienced in: Python, Java, C, C++, SQL, HTML/CSS, JavaScript, React Native, React, Node.js
Technologies: TensorFlow, Verilog, Linux, git, MATLAB, MongoDB, Firebase, Canva, Microsoft Office

WORK EXPERIENCE

Monarch Mart | *Software Developer Intern*   **May 24' - Aug 24'**
- Audited the UI across all digital platforms, and streamlined corresponding front-end code which is projected to speed up customer checkout times by **20** percent
- Collaborated with cross-functional teams to contribute to the development and integration of an AI-powered live customer service chatbot

Awareness 360 | *Staff Member*   **Sep 21' - Jul 22'**
- Assisted with the onboarding process of the internship program, mentoring a team of **20** interns and preparing performance reports
- Audited our social media platforms and suggested improvements increasing audience engagement and interaction by **20** percent

LEADERSHIP EXPERIENCE AND INITIATIVES

Battery Workforce Challenge | *Algorithms Designer*   **Oct 23' - Present**
- Led the development of several algorithms for precise estimation of battery feature statuses, that are now used in production by **over 20+ systems**
- Utilized **SQL** to visualize and model extensive datasets, integrating these into algorithms to predict future values of quantifiable battery characteristics

McMaster ECOCAR | *Connected and Automated Vehicles Simulator*   **Sep 22' - Apr 23'**
- Acquired sensor data from simulated vehicle test cases in MATLAB, which was then modelled and visualized to create comprehensive reports
- Implemented new features based on reports to improve responsiveness and optimize the existing model's design

PROJECTS

Malaria Detection ⬤ | *TensorFlow, TensorFlow Datasets, Python, Matplotlib*
- A **Convolutional Neural Network** classifying blood cells as either parasitized by plasmodium or uninfected
- Managed a data pipeline and executed model training and evaluation, achieving approximately **90** percent accuracy

Conway's Game of Life Recreation ⬤ | *C++, Raylib, Object Oriented Programming*
- An **interactive simulation** of Conway's Game of Life using **C++** and the **raylib graphics library**
- Implemented real-time interaction through mouse clicks for toggling cell states, keyboard controls to adjust simulation speeds, and random state generation for varied initial conditions.

MyHealth Application ⬤ | *UI/UX, React Native, JavaScript, Node.js, Firebase, Android Studio*
- A **cross-platform** menstrual and sexual health tracking app to track cycles, with resources for contraceptives and pregnancy
- Built using **React Native**, and **Node.js** for sever-side functions and **Firebase** for authentication and storage

URL Content Processor ⬤ | *Python, LangChain, OpenAI API, NLP*
- A **streamlit** web application using **LangChain** and **OpenAI API** to extract and process text from URLs for dynamic question answering, improving efficiency of information retrieval tasks
- Implemented **FAISS** for embedding storage, improving query response speed by **40** percent

Combination Lock ⬤ | *Verilog, Altera Board, Hex Display*
- **Moore FSM** designed using **Verilog** for a digital combination lock, simulating the functionality on an **Altera Board**
- Key functionalities include code-based door locking and unlocking, and alarm activation after consecutive failures