Vikram Chandar

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EDUCATION

McMaster University Sept 2022 - Present
Bachelor of Engineering - Software Engineering III Co-op
Cumulative GPA: 3.9/4.0; Dean's Honour List 2022-2024
Relevant Coursework: Object Oriented Programming, Data Structures and Algorithms, Digital Logic and Systems

WORK EXPERIENCE

Alluri Technologies @ BMO | Jr. Full-Stack Developer June 2023 – Aug 2023

- Implemented a **Maven-base**d testing framework to automate **Selenium testing** for the BMO InvestorLine 2.0 website, standardizing the testing process and improving reusability, saving **70+** hours per quarter
- Managed a complex **bugfix** that prevented money market offerings from being displayed on margin accounts, optimizing the investing experience for over **100 000 000+** registered users
- Ensured data retrieval accuracy by performing **SQL** queries to extract and compare information from the **database**, verifying that read operations returned correct and complete data
- Coordinated development of **mobile UI** notifications for limit and stop trades using **SpringTools**, improving pre-existing email trading alerts for over **20 000 000+** registered users

SKILLS

Programming Langugages: Python, Java, C, JavaScript, HTML, CSS, SQL, Bash, Verilog, PHP, C++, Git
Frameworks/Libraries: Maven, Selenium, TensorFlow, Scikit-learn, React, Flask, Pandas, Numpy, MySQL

PROJECTS

Recipe Ninja
Utilized: PHP, MySQL, HTML, CSS

- Developed a dynamic recipe blog **web application** using **PHP** for users to discover new recipes and promote their creations.
- Deployed a **MySQL** database on the backend to enable **user authentication**, giving access to a personalized dashboard where users can view shared posts
- Leveraged a separate **MySQL** database and **PHP** to facilitate blog post creation in real-time, allowing users to upload and edit recipes under their account name
- Designed an intuitive frontend interface using **HTML/CSS** for seamless navigation and optimal user experience.

GTRacer
Utilized: Python, Pygame, Pygbag, Asyncio

- Designed and implemented an interactive car racing game using **pygame** with software supported **N-key rollover** that generated over **2200 impressions** on **itch.io** during the first two weeks of launch
- Designed **Sprite Collisions** and obstacle generation algorithms to implement **difficulty scaling** based on performance and game customization
- Ported the python game to **WebAssembly** format enabling deployment on the internet with **near-native** performance

Quanser Robot Recycling Simulation
Utilized: Python, Quanser

- Led a team of four members to create **Python-based** line-following program that enabled a Q-bot to accurately gather, transport and dump recyclables into appropriate shipment containers
- Leveraged **IR sensors** to adjust wheel speed and rotation allowing the Q-Bot to navigate predefined paths
- Integrated **Colour sensors** to accurately determine off-loading location of recyclables coupled with **Ultrasonic sensors** which determined Q-Bot stopping position for precise dumping of waste

Email Spam Filter
Utilized: Python, Sklearn, Matplotlib, numpy, pandas, Flask, Tkinter

- Curated a diverse **dataset** of email samples and **preprocessed data** to extract relevant features such as **metadata**, text content and sender familiarity
- Employed state-of-the-art **Linear Regression**, **SVM** and **MultiNominalNB** models to create a **stacked classification model** with over **97% accuracy** in determining spam emails
- Designed a custom **GUI** with **Tkinter** paired with a **RESTful API** backend using the **Flask framework** to enable seamless communication between the **GUI front-end** and the **classification model**