

Jawad Arshad

jawadarshad.ca | github.com/HamJaw1432

EDUCATION

University of Toronto (GPA: 3.7)

Bachelor of Science in Computer Science, Specialist Program Comprehensive Stream

Toronto, ON

Sept. 2019 – May 2024

EXPERIENCE

Full Stack / Blockchain Developer

May 2022 – Present

Dapp Technology Inc

Toronto, ON

- Built a full-stack web application using **NextJS with Typescript, NestJS** and **Firebase** to allow users to bridge tokens on multiple chains, had over **30+ chains with 4000+ tokens on 15+ bridges**.
- Developed a DeFi Hub application that allowed users to trade, earn and explore in DeFi, with **real time price data shown on a Tradingview lightweight charts**.
- Implemented functions to **firebase function** that completed various tasks, like updating a price document on **firebase store** on a scheduled basis.
- **Deployed** many Smart Contracts to the **blockchain**, like a presale contract, and a lottery contract.

Machine Learning Teaching Assistant

Jan 2024 – Apr 2024

University of Toronto

Toronto, ON

- Taught two Classes per week various topics in machine learning like **regression, classification, clustering, dimension reduction, Bayesian methods, etc.**
- **Worked with the teaching team** to provide a holistic learning experience
- Contributed to the **assessment and evaluation process** through grading assignments, invigilating exams, as well as **providing feedback**.
- **Provided extra help to students** by holding office hours for them to ask questions.

PROJECTS

Langchain | *Python, Git*

Sept 2023 – Dec 2023

- **Contributed** to an **open-source python** repository called Langchain.
- Developed new tools that allowed **AI agents** to access information on the **google such as google jobs, google finance, google trends, and google lens** by calling a **external API** and parsing the data for the AI agent.
- **Wrote test cases and example docs** for the new tools.

Machine Learning News Article Classifier | *Python*

Jan 2023 – Apr 2023

- Implemented and evaluated classifiers for labeling news articles into five categories using **Naive Bayes, Gaussian class conditional, and k-nearest neighbors classifiers**.

Machine Learning Audio Emotion Classifier | *Python*

Jan 2023 – Apr 2023

- Developed and evaluated an **SVM classifier** and an **SVM classifier with PCA** to predict whether the emotion associated with a human audio signal is positive or negative using Mel spectrogram and chromagram features.

Machine Learning Image Imprinter | *Python*

Jan 2023 – Apr 2023

- Applied **radial basis functions** to restore corrupted images in a painter program.

Machine Learning Image Number Classifier | *C*

Jan 2021 – Apr 2021

- Developed a **machine learning** handwritten number classifier using **kNN** with a **97%** accuracy rate.
- Enhanced the machine learning handwritten number classifier by transitioning from kNN to a **decision tree**, reducing running time from **45 minutes to 12 minutes**.
- Implemented **multiprocessing** to accelerate the classification of 10,000 items, reducing processing time from **45 minutes to 5 minutes** by distributing work across **multiple forked processes and communicating via pipes**.
- Utilized **makefiles** for efficient building and compiling of programs.

Mock Linux Shell | *Java, SVN*

Sep 2020 – Dec 2020

- Developed a **mock (Linux) Shell in Java**, employing various features of **object-oriented programming**.

- Created an **abstract command class** to facilitate **easy development and extension of new commands** (mkdir, ls, cat, redirection, and more).
- Engineered a virtual file system using a **tree structure**.
- Implemented a text-based save file format to preserve the current state of the shell for future loading.
- Engaged in a **2-week agile development cycle** for rapid development and testing using **SVN** to version control.

- Conducted testing of classes using **JUnit test suites and mock classes**.
- Utilized **CRC cards** for brainstorming the design of object-oriented software.

TECHNICAL SKILLS

Languages: Java, Python, C, JavaScript, Typescript, HTML/CSS

Storage: MySQL, SQLite, MongoDB, Firebase Store, Supabase

Frameworks: React, NodeJS, ExpressJS, NestJS, NextJS, Flask, JUnit, Jest

Developer Tools: Git, GitHub Actions, Docker, Google Cloud Platform, VS Code, Visual Studio, Jupiter Notebook, Eclipse

Libraries: Axios, Styled-Components, Ethers, Redux, Recharts, Socketio, Pandas, NumPy, Matplotlib, Chai, Mocha, Hardhat