TAHA YAR KHAN

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TECHNICAL SKILLS

- **Languages:** Python, Java, JavaScript, CSS, HTML, Bash, C, C++, Rust, Haskell
- **Databases and Data Management:** SQL, MongoDB, NumPy, Pandas, TensorFlow.js, Scikit-learn
- **Tools and Frameworks:** React, Chakra UI, Material-UI, Bootstrap, Tailwind, Node.js, Express.js, Mongoose, JWT, Flask, Docker, Git, GitHub, Postman, Selenium,Plotly, Matplotlib, Streamlit, JMeter, BCrypt, Linux, Windows, macOS, Visual Studio Code, Figma, REST API, RESTful API, Axios, Jira, Google Suite, Microsoft/Office 365.

EXPERIENCE

Technology Research Analyst | BMO (Bank of Montreal) **Feb 2025 - Present**

- Developed **web scraping** solutions using **Selenium** to **extract data for 1000+ companies** enhancing **automation and scalability**
- **Increased scraper accuracy by 55%** , ensuring **higher reliability and precision** in extracted **financial and employment data** .
- **Automated data collection** for trending news topics, **streamlining insights** for the research team and improving report turnaround time.

UI/UX Developer | BMO (Bank of Montreal) **Jan 2025 - Present**

- Designed and developed **custom web components** for BMO's innovation platform, **improving interface functionality and scalability** .
- Developed **prototypes** to **accelerate design validation and development** , enabling the team to complete **10% of Jira tickets in 2 days** .
- **Optimized platform responsiveness by 20%** , ensuring **smoother UI** , **enhanced UX** and **reduced load times by 30%** .

Software Developer Intern | MAX **May 2024 - Aug 2024**

- Developed login and signup components with **React** and **JavaScript** , enhancing **authentication workflows** and **form validation** .
- **Integrated REST API** , optimizing **data flow** for **real-time updates** and efficient communication between client and server.
- Wrote **Lambda functions** for the **AWS SAM Application** , optimizing back-end processes and improving system scalability.

PROJECTS

Carbon Footprint Predictor **Present**

JavaScript, TensorFlow.js, Axios, React, Vite, Node.js, Express, MongoDB, REST API

- Developing a **neural network model** using **TensorFlow.js** to predict carbon footprint achieving a **mean squared error (MSE) of 0.02** .
- Applying data preprocessing (normalization, one-hot encoding) and a sliding window approach, **enhancing prediction accuracy by 25%** .
- Integrated **Axios** with JWT authentication for secure data fetching, **reducing retrieval time by 40%** and better model training efficiency.
- Achieved a **15% improvement in overall model accuracy** and **reduced model loading time by 50%** using local storage persistence.

Skill-Match **Dec 2024**

JavaScript, React, Vite, Tailwind CSS, Python, Cohere API, Supabase SQL, JMeter, BCrypt

- Developed an **AI** volunteer matching platform with **Cohere API** , **improving match accuracy by 30%** based on student skills/interests.
- Implemented **authentication with access control** , **ensuring data protection** , while supporting **10,000+ concurrent users** .
- Built a responsive platform with **95% of interactions under 2 seconds** , using **Row-Level Security** for **efficient data management** .

Credit Card Fraud Detector **Jun 2024**

Python, NumPy, Pandas, Scikit-learn, Plotly, Matplotlib, Streamlit

- Developed a **logistic regression model** to detect fraudulent credit card transactions, achieving **95% accuracy on the test dataset** .
- Utilized **stratified sampling** during the train-test split to ensure proportional representation of fraudulent transactions.
- Developed a **Streamlit dashboard** with **Plotly visualizations** to analyze transactions and enable real-time fraud prediction and insights.

My AI Tutor **May 2023**

Python, React, JavaScript, Cohere's API

- Utilized **Python** and leveraged **Cohere's API** to create a robust and fully functional backend system for the AI Tutor.
- Integrated **React** and **JavaScript** for interactive design and **Flask** to link frontend and backend, ensuring an engaging user experience.
- **Accelerated response speed by 3 seconds** using Cohere's co.classify function, contributing to a **10% faster** tutoring experience.
- Utilized **50 test examples** to train **Cohere's API** , enhancing its ability to classify input and resulting in a **30% increase** in accuracy of generated responses.

EDUCATION

- **Toronto Metropolitan University (Formerly Ryerson University) - Bachelor of Science, Computer Science 2022-2026**
- **Relevant coursework:** OOP, Data Structures and Algorithms, Software Engineering (Agile methodologies), Operating Systems, Probability and Statistics, Machine Learning, Artificial Intelligence, Database Systems, Data Analytics, Data Visualization and Computer Security.