

Mohammadamin (Amin) Sedaghat

☎ (647) 231-4058 ✉ m4sedagh@uwaterloo.ca 🌐 GitHub 🔗 LinkedIn 🌐 amin-sedaghat.vercel.app

Skills

Languages: Python, C++, C, Java, SQL, JavaScript, TypeScript, Bash, Haskell, Racket, HTML/CSS

Technologies: TensorFlow, PyTorch, Keras, Kafka, Scikit-learn, Docker, Azure, Pandas, Flask, Next.js, React, Node.js

Tools: PostgreSQL, Git, MongoDB, Linux, VsCode, Jupyter Notebook, Vim, Prismic.io, Figma, Vercel

Experience

Machine Learning Engineer

Feb 2025 – Present

WAT.AI | University of Waterloo Official AI design Team

Waterloo, Ontario

- Mitigated multi-million-dollar costs due to drill downtime for oil companies by developing an advanced anomaly-detection model leveraging LSTM networks and autoencoders in **Keras/TensorFlow**
- Created a dataset using **25PB** of data from Norway's Official Oil rig database for training and testing models
- Optimized the extraction, processing, and modeling of data from the **Diskos dataset** by creating an intake system using **Kafka Streams**, utilized internally by **20+ members** for training, testing, and validating models and algorithms
- Developed an **ANN** algorithm utilizing **TensorFlow** to analyze recent oil rig data, enabling accurate predictions

Lead Web Developer

Dec 2024 – Present

UWDBC | From 0-100% of UWaterloo Official Dragon Boat Club's website

Waterloo, Ontario

- Deployed on Vercel and Hostinger, acquiring real-time user interaction and performance analytics for **200+** users
- Recruited and led a team to develop and launch a dynamic web platform using **Next.js**, cutting loading time by **80%**
- Engineered and integrated dynamic CMS features using **Prismic.io**, lowering production time by **90%** on average
- Designed the website using **Figma** implementing **5+** new pages, including a gallery, executive profile, and store

Software Developer Engineer

Sep 2024 – Dec 2024

UWCSC | The official UWaterloo Computer Science Club

Waterloo, Ontario

- Developed a predictive model, **Stock ML**, using **LSTM** to analyze stock market trends based on historical data
- Built a web-scraping tool with Python, Newspaper3k, Scrapy, and Selenium to gather targeted financial news
- Integrated **Alpha Vantage API** to access and incorporate real-time and historical stock data for predictive analysis

Projects

UWPlanner | 🌐 TypeScript, Python, Flask, Docker, PostgreSQL

- Engineered a responsive, server-side-rendered Next.js UI/UX in TypeScript, scoring **95+** on Google Lighthouse
- Designed & exposed a **RESTful** Flask API backed by **PostgreSQL** and **SQLAlchemy**, cutting average query latency
- Elevated test coverage to **85%** by writing **50+** PyTest and React Testing Library unit and integration tests

Accentify.Study | 🌐 Python, TensorFlow, JavaScript, HTML/CSS

- Implemented accent analysis using **TensorFlow** to assess vocal characteristics and provide personalized feedback
- Used **librosa** and Tensorflow to extract mel-spectrogram features of voice for frequency and pitch extraction
- Developed a user-friendly website to address **accent bias**, delivering a solution with a team of four at HTV9

HarvestAid | 🌐 Next.js, React, Python, Flask

- Developed a **search engine** allowing users to filter resources using advanced options, reducing search time by **85%**
- Designed and implemented a User Interface and responsive design, using **Next.js** to create many pages
- Refactored the initial code base from HTML/CSS to React cutting down on load and development time by **75%**

Snake Futuristica | 🌐 JavaScript, HTML/CSS

- Engineered a modernized snake game, utilizing JavaScript **Canvas API**, featuring adjustable speed, block size, and dynamic obstacle placement, with smooth frame rendering and modular game logic to enhance user experience
- Optimized UI/UX with smooth controls and implemented dynamic visuals: animations and responsive design

Education

University of Waterloo | Faculty Avg: **97%**

Bachelor of Computer Science

2024 - Present

Waterloo, Ontario