MD HAMIM MAHDIE

Hartford, CT | hamimmahdie2@gmail.com | (860) 380 6698 | hamimmahdie.vercel.app | linkedin.com/in/hamimmahdie/ | github.com/HamimMahdie

SKILLS

Programming Languages: Python, Java, JavaScript, Swift, MATLAB, C, Assembly
Developer Tools: Docker, Kubernetes, React, SpringBoot, Flask, Django, GCP, SQL, Firebase, MongoDB, ChromaDB
Data Tools: PyTorch, TensorFlow, Keras, Pandas, scikit-learn, Google Colab, Jupyter Notebook
Miscellaneous: Gemini, OpenAI, Node.js, Next.js, Vite, Tailwind CSS, HTML, Streamlit, PocketBase, Uvicorn, REST API, Git

EXPERIENCE

AI Engineering Intern   **Radical AI - Remote**   July 2024- Present
- Enhance and maintain backend services for [Kai](Kai), an AI teaching assistant, using **FastAPI** and **Uvicorn**, ensuring high efficiency and scalability, saving **100+** developer hours for a team of 8.
- Utilize **LangChain** and **LangChain-Chroma** to engineer and optimize AI-driven features for automated grading and embeddings for various educational use cases
- Adapt YouTube Transcript API and PyTube for video content analysis and transcription, enhancing educational resources and improving content accessibility by 15%

Machine Learning Research Assistant   **Trinity College - Hartford, CT**   May 2024- July 2024
Fraud Detection and Analysis for Auto Insurance Claims using Machine Learning and Deep Learning
- Conducted 200+ experiments with advanced data preprocessing, such as imputation, standardization, one-hot encoding, and oversampling with **SMOTE** to improve model accuracy by 10% under limited data availability
- Engineered an Artificial Neural Network (ANN) leveraging **TensorFlow** and **Keras**, incorporating layers of Dense, Dropout, BatchNormalization, and early stopping mechanisms, resulting in a significant improvement in precision
- Implemented a **Random Forest** model with extensive hyperparameter tuning via **GridSearchCV** and feature selection using **Lasso regression**, achieving a final model accuracy of **88%** and a substantial increase in fraud detection precision.

IT Consultant   **Trinity Library and IT Services - Hartford, CT**   January 2024 - Present
- Provide Tech guidance and troubleshooting to students/staff on 75 issues weekly on **ishelp** ticketing system resolving 100% within target timeframes. Guided library patrons in utilizing the 900,000+ collection resources.
- Configure and maintain multi-factor authentication controls using Microsoft **Azure** and implement **Salto Systems** for access control, enhancing security protocols and access management across campus facilities.

PROJECTS

Quizify AI   GitHub
- Developed an AI-powered, context-driven quiz generation app that ingests user documents, embeds content using fine-tuned **gemini-pro** & **Vertex AI** APIs to provide study aids to learners and educators worldwide
- Configured **Google Cloud** projects, managed **IAM** roles and **service accounts**, ensuring robust authentication with **OAuth 2.0** and **JWT** tokens to bolster security protocols and streamline workflows by 30%
- Engineered a **Streamlit** interface for data pipeline management, integrating PyPDFLoader, VertexAIEmbeddings, and **ChromaDB**, increasing data processing efficiency and user engagement by 40%

ForEx Rates Predictor   GitHub
- Developed a **cloud-native** application to predict currency exchange rates with real-time data integration, and containerization with **Docker** and **Kubernetes**, deployed on **Google Cloud** Platform
- Implemented a **microservices** architecture comprising **UI** container, **Gateway API** service to Frankfurter public API, Prediction service with **ML** models, and Data Storage, improving system scalability and manageability by **30%.**
- Fine-tuned **LSTM** to provide highly accurate predictions (RMSE = 0.008159; MAE = 0.006066) complemented by visual and actionable insights for traders and businesses

Food Pantry Scheduler [Open Source]   GitHub
- Spearheaded the development of a **Flask** app to serve **100%** of the administrative needs for Trinity College's food pantry, Food 'n Stuff, featuring secure login/register, session management, admin and volunteer dashboards
- Integrated **SQLite databases** to store shifts posted by admins and hours logged by volunteers, ensuring reliable data management and retrieval across the web application
- Integrated email notifications for donation alerts using **Google's SMTP API** and utilized **GitHub** for version control, **CI/CD** pipelines, and issue tracking, ensuring robust collaboration and reducing deployment errors by **25%**

EDUCATION

Trinity College, CT, USA   May 2026
B.S. in Computer Science & Economics
- Davis United World College Scholar, Faculty Honors
- Relevant Coursework: OOP **(Python, Java),** Data Structure & Algorithms **(Java)**, Computer Systems **(C, Assembly)**, Software Design **(Spring Boot, REST APIs)**, Cloud Native Applications **(Docker, Kubernetes, GCP)**, Large Scale Dev. **(Git, Flask)**

LEADERSHIP & VOLUNTEERING

- Writing Associate, Allan K. Smith Center for Writing and Rhetoric, Hartford, CT   August 2023 - Present
- Resident Advisor/Assistant, Trinity College, CT   August 2023 - May 2024
- Senator, Class of 2026, Student Government, Trinity College, CT   August 2022- May 2023