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Shakil Mosharrof

B.Sc in CS | AWS AI/ML Scholar | Software Engineer

Portfolio
GitHub
LinkedIn

Skills

Language Python, C, C++, LaTeX, C#, Bash, JavaScript, Matlab, SQL

Backend Flask, FastAPI, Redis, RQ, Celery, Django, Pydantic, Alembic, SQLAlchemy

Database MySQL, PostGRES, MongoDB, SQLite, Supabase

ML & NLP ML Metrics, Supervised & Unsupervised learning, LLMs, PyTorch, NLP, Tensorflow, SpaCy, T5, BERT, OpenCV, Yolo, GANN, CNN, LLM Solutions Development, LLaMa, Langchain, Langraph, Experienced with LLMs APIs(GPT-4+, Claude-2, Llama-2, MistralAI), Ollama, Research in Generative AI, Streamlit, RAG, HuggingFace, Jupyter/Anaconda, Fine-Tuning Datasets with LLM, Prompt Engineering, Web crawling and scraping to extract data, train and finetune

DevOps Gitlab CI/CD, Github CI/CD, CI/CD Pipelines, Github Actions, Docker, Kubernetes, AWS, EC2, Sagemaker, S3 etc.

Projects | Certifications

MIST Mongol Barota (An autonomous rover) **2021 - 2023**
Mars Society's University Rover Challenge (URC) *USA*
Anatolian Rover Challenge (ARC) *UKET,Turkey*
Tech Stack ROS,Robotics,ML,Autonomy,Python,Flask,R&D

Retrieval Augmented Generation Using Gemini Pro LLM and FastAPI|**Github**
Tech Stack FastAPI, Gemini, LLM, RAG, API development

Pretrained CNN-based Dog Classifier |**Github**|**Certificate**
Tech Stack Python,ResNET,VGG16, Machine Learning

NLTK LSTM Based HateSpeech Detection | **Github**
Tech Stack ML, NLP, LSTM, Python

Predicting Bike-sharing Demand Using Machine Learning with AutoGluon | **Github**
Tech Stack MLops, Sagemaker, AutoGluon, Torch, MaxNet

Automatic Literature Review generation with RAG Based LLMs | **Github**
Tech Stack LLMs, RAG, OpenAI API, HuggingFace Models

PyTorch-Create Your Own Classifer |**Github**|**Certificate**
Tech Stack Python, CNN, Machine Learning, AWS, Udacity

MNIST Neural Network Project using pyTorch | **Github**
Tech Stack PyTorch, Python, CNN, Machine Learning

Research & Publications (5+) | Scholar

- DeepTriNet: A Tri-Level Attention Based DeepLabv3+ Architecture for Semantic Segmentation of Satellite Images.[Link] [got the best paper award]
- Performance Analysis of Various EfficientNet Based U-Net++ Architecture for Automatic Building Extraction from High Resolution Satellite Images.[Link]
- CycleGAN-Based Data Augmentation with CNN and Vision Transformers (ViT) Models for Improved Maize Leaf Disease Classification.[Link]
- Biomolecular Analysis of Soil Samples and Rock Imagery for Tracing Evidence of Life Using a Mobile Robot [Link]
- Enhancing Mango Leaf Disease Classification: ViT, BiT, and CNN-Based Models Evaluated on CycleGAN-Augmented Data.[Link]
- Automatic Literature Review Generation : An Improved LLM-RAG Based Solution Embedded With Regex and T5. Link[Thesis][Accepted at ICISET-2024]

Experience

Machine Learning Engineer **December 2024 - Now**
Culture Hint *Remote (Contract) London, UK*

- Improving and implementing computer vision solutions with backend API designing

AI Engineer **July 2024 - November 2024**
Delineate Pro Inc. *Remote (Contract) Massachusetts, USA*

- Developed and delivered engineered AI solutions for major pharmaceutical companies in the USA, enhancing their research workflows and decision-making processes.
- Implemented cloud-based Retrieval-Augmented Generation (RAG) agents to optimize data retrieval and processing, significantly improving research efficiency and accuracy for pharmaceutical applications.

Software Engineer (AI/ML) **March - August 2024**
Gigalogy Inc. *Hybrid (BD), Tokyo, Japan*

- Engineered scalable RESTful APIs using FastAPI, integrating SQLAlchemy, PyDantic, and Docker, while ensuring robust performance through Insomnia API testing.
- Designed and deployed a RAG LLM-based recommender system for a Japanese E-Commerce platform, significantly enhancing product recommendation accuracy and user engagement.

AWS AI/ML Scholar : Cohort I, II **Sept 2023 - August 2024**
Apprenticeship at AWS , Udacity *Remote*

- **AWS AI/ML Scholar Cohort II**: Supervised & Unsupervised learning projects completion.
- **AWS AI/ML Scholar Cohort I**: MLops, Aws Lambda, Sagemaker, S3, IAM, CNN, Image processing.

Software & Autonomous System Developer (Onsite) 2021 - 2023
Mars Society's University Rover Challenge (URC) *USA*
Anatolian Rover Challenge (ARC) *UKET,Turkey*

- Led the development of an autonomous rover system, securing 1st place at the University Rover Challenge (URC 2021) and 3rd place at the Anatolian Rover Challenge (ARC 2022), competing against teams from over 14 countries worldwide. Link ,. Link.
- Achieved over $50,000 in funding from government and non-government sources, contributing to the success of projects in URC 2023 and ARC 2023, where my team placed 2nd in Asia and 5th globally.

Industrial Trainee **Jan 2023 - Feb 2023**
Brainstation 23 *Mirpur DOHS,Dhaka*

- Completed two ASP.NET web (REST API) projects, showcasing full-stack development skills and responsive design proficiency.

Education

B.Sc in Computer Science and Engineering
Military Institute of Science and Technology

Higher Secondary School Certificate
Barishal Cadet College