Shakil Mosharrof

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Microsoft Certified: AI Engineer (AI-102), Data Scientist (DP-100) | Machine Learning Engineer | MLOPs | Agentic AI | System Design | Scholar

Portfolio
GitHub
LinkedIn

Skills

Language	Python, R, C, C++, LaTeX, C#, Bash, JavaScript,SQL
Backend	Flask, FastAPI, Redis, RQ, Celery, Django, Pydantic, Alembic, SQLAlchemy, Kafka
Database	MySQL, PostGRES, MongoDB, SQLite
Machine Learning	ML Metrics, Supervised & Unsupervised learning, scikit-learn, XGboost, LightGBM, LLMs, PyTorch, NLP, Tensorflow, SpaCy, T5, BERT, OpenCV, Yolo, GANs, CNN,Transformers, LLM Solutions Development, LLaMa, Langchain, Langraph,Pydantic-AI, CrewAI, Experienced with LLMs APIs implementation in production, Ollama, Research in Generative AI, Streamlit, RAG, HuggingFace, Jupyter/Anaconda, Fine-Tuning Datasets with LLM and traditional ML Models, Prompt Engineering, ETL pipeline, W&B, PEFT, AirFlow, DVC, MCP, MLflow
DevOps	CI/CD Pipelines (Github, AZDO), Docker, AWS, Azure

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 **February 2025 - Now**
Metlife *Onsite*

- Deliver recommendation system that boosted up lead collection and sales by 22%
- Build end to end On-prem and Azure MLOPs pipeline on metal servers in two different geolocations

Machine Learning Engineer December 2024 - March 2025
Culture Hint *Remote (Freelance) London, UK*

- Improving and implementing machine learning and computer vision solutions with back-end API designing with AWS EC2, CI/CD Pipeline , YOLOv8, Labelstudio

AI Engineer **July 2024 - December 2024**
Delineate Pro Inc. (YC'25) *Remote (Contract) Massachusetts, USA*

- Developed and delivered end to end LLM based RAG 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.

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.

Education

B.Sc in Computer Science and Engineering
Military Institute of Science and Technology
Higher Secondary School Certificate
Barishal Cadet College