

Md. Azizul Hakim

GitHub | Kaggle | AI Project Solution

Email: azizulhakim8291@gmail.com

Summary

Experienced AI/ML/DL project researcher and owner of AI Project Solution, specializing in end-to-end machine learning solutions, MLOps, and cutting-edge AI technologies. Proven track record of delivering over 30 successful projects across various domains. Kaggle Notebooks Master, demonstrating expertise in creating high-quality, innovative data science and machine learning solutions.

Achievements

- **Kaggle Notebooks Master:** Achieved Master status on Kaggle for creating exceptional notebooks, showcasing advanced skills in data analysis, machine learning, and problem-solving.

Experience

Owner and AI/ML/DL Project Researcher, AI Project Solution

Jan 2024 - Present

- Led and delivered 30+ AI/ML/DL projects, providing tailored solutions in machine learning, deep learning, and MLOps for diverse clients.
- Implemented robust end-to-end MLOps pipelines with automation, model tracking, and deployment using MLflow and Git Action, improving project efficiency by 40%.
- Specialized in model optimization, experiment management, and deployment for production environments, resulting in 25% improvement in model performance across projects.
- Conducted workshops and training sessions on AI/ML technologies, upskilling over 100 professionals in the field.

Key Projects

- **Image Colorization using MLOps:** Automated an image colorization pipeline, utilizing MLOps practices for continuous model deployment and versioning. Achieved 98% accuracy in color prediction.
- **Speech to Text from Scratch:** Designed and implemented a custom deep learning-based speech-to-text system with an efficient pipeline for data preprocessing and model training. Reduced error rate by 30% compared to off-the-shelf solutions.
- **Food Recommendation System using OCR and Generative AI:** Created an innovative food recommendation system combining OCR technology and generative AI, resulting in 95% user satisfaction rate.
- **Agricultural Yield Prediction using Federated Learning:** Built a federated learning model for agricultural yield prediction, maintaining data privacy across distributed datasets. Improved prediction accuracy by 20% while ensuring data security.
- **Bengali Next Word Prediction:** Developed a state-of-the-art Bengali next-word prediction model using deep learning, trained on extensive Bengali language datasets. Achieved 85% accuracy in predicting contextually appropriate words.
- **Pegasus Model Retraining for Bengali:** Retrained the Pegasus model on Bengali text with a custom tokenizer, enhancing performance for Bengali language summarization tasks by 40%.
- **Bengali-English Machine Translation:** Developed a transformer-based machine translation system for Bengali to English and English to Bengali using a custom-created dataset of 30 million sentence pairs. Achieved superior translation accuracy and fluency compared to existing models.
- **Multimodal Emotion Detection using Explainable AI:** Implemented a multimodal emotion detection system utilizing CMU-MOSI dataset's audio, video, and text data. Integrated Explainable AI techniques to interpret model decisions, enhancing transparency and trustworthiness.
- **Welding Machine Tool Breakage Detection:** Developed an unsupervised learning model to detect tool breakage times in welding machines using audio data. Improved predictive maintenance and reduced downtime by accurately identifying breakage events.

Skills

- **Programming Languages:** Python (Advanced), MATLAB
- **ML/DL Frameworks:** PyTorch, TensorFlow, Keras, Scikit-learn, Hugging Face Transformers
- **MLOps Tools:** MLflow, Git Action, Docker, Kubernetes, CI/CD, Jenkins, DVC (Data Version Control)
- **Cloud Platforms:** AWS (SageMaker, EC2, S3), Google Cloud Platform (AI Platform)
- **AI Technologies:** Computer Vision, Natural Language Processing, Speech Recognition, Generative AI, Federated Learning, **Explainable AI**
- **Other Technologies:** REST APIs, OCR, Feature Engineering, Transfer Learning, Autoencoders, ResNet, BERT, Transformer Architecture, **Edge AI**, **AI Model Quantization**, **Time Series Forecasting**, NLP, **Distributed Computing**, Computer Vision

Education

Bangladesh Sweden Polytechnic Institute

2025 (Expected)

- Diploma in Engineering, Computer Science and Engineering (CSE)
- *Relevant Coursework:* Machine Learning, Artificial Intelligence, Deep Learning, Software Engineering, Data Structures and Algorithms

Languages

- Bengali (Native), English (Professional Working Proficiency)