KAISER HAMID RABBI

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Summary

Results-driven Machine Learning Engineer with expertise in **Computer Vision** and **Natural Language Processing**. Successfully delivered projects in ANPR, facial recognition, and action recognition, surpassing industry standards and improving efficiency. Collaborated with government agencies, providing enterprise solutions with cutting-edge NLP research and implementation of transformer models, ASR, TTS, NLU, and RASA technologies.

Experience

TigerIT Bangladesh Limited
Software Engineer, Machine Learning

Banani, Dhaka
10/2019 - Present

- Developed **Automatic Number Plate Recognition System** using PyTorch, TensorFlow, CUDA, Redis, Minio, Mosquitto, and rtsp-stream-server. Trained detection and recognition models on multiple GPU servers, achieving **95% real-time accuracy** for processing RTSP camera feeds. Implemented WebSocket and DeepSORT for efficient vehicle tracking.
- Led a **4-person team** in data preprocessing and created an ANPR web client for parking, vehicle tracking, toll collection, and RFID-based systems. Streamlined data management, enhancing ANPR efficiency and accuracy.
- Built **Facial Recognition System (FRS)** with PyTorch, TensorFlow, CUDA, Redis, Minio, Mosquitto, and rtsp-stream-server. Implemented ArcFace, MTCNN, RetinaFace, and DSFD models for high-accuracy face detection and recognition.
- Created **1100 clusters for 1.2 million Rohingya embeddings**, improving facial data efficiency. Resolved memory leaks, ensuring system stability. Implemented Deep Sort for reliable person tracking in identity management solutions for government agencies, enterprises, and service providers.
- **Evaluated ML models** using accuracy, precision, recall, F1 score, AUC, cross-validation, confusion matrix, and ROC analysis. Kept up-to-date with ML advancements through research papers, conferences, webinars, and active participation in GitHub and Kaggle communities.

IntelSense AI Limited
Chief Technology Officer

Gulshan, Dhaka
03/2023 - Present

- Orchestrated a **team of 12 engineers** to explore and train cutting-edge transformer models for Natural Language Processing (NLP), achieving remarkable advancements in RASA chatbot, ASR, TTS, and NLU systems. Enabled Bengali voice command recognition, enhancing user accessibility and engagement.
- **Deployed ML models** using Docker containers on an AWS-based Kubernetes cluster, integrating RESTful APIs with website backend systems. Deployed voice technology products, enabling seamless voice command recognition and enhancing user engagement.
- Implemented voice technology products with impressive performance metrics, including an impressive ASR **accuracy of 92%** and TTS naturalness **rating of 4.5/5**. Delivered seamless voice experiences in Bengali, empowering users with intuitive and fluent interactions.

Education

Otto-von-Guericke Universität Magdeburg
M.Sc. in Data and Knowledge Engineering

Germany
10/2015 - 10/2018

Ahsanullah University of Science and Technology
B.Sc. in Computer Science and Engineering | GPA: **3.26** / 4.00

Dhaka, Bangladesh
10/2010 - 10/2014

Skills

Machine Learning · Computer Vision · Natural Language Processing · Real-time ML · Redis · Kubernetes · Docker · Python · Data Science · Pytorch · Tensorflow · Transformer · Stream Server · CUDA programming · Kaldi · Golang · AWS

Fun Facts

Problem Solving
COMPETITIVE PROGRAMMER and **KAGGLER** at LeetCode, HackerRank and Kaggle

Touch Typing
Ranked in the top elite **1% percentile** with a remarkable typing speed of **100+ WPM**

Teaching
Online Instructor at **Udemy** and **Packt Publication** Ltd., authoring **4 premium courses** on Machine Learning, Deep Learning, and Artificial Intelligence.