

I have gained extensive experience in deep learning over the past 4 years. Initially, I actively participated in multiple competitions on Kaggle, DrivenData, and the IEEE Signal Processing Society. Ranked as a **Kaggle Competition Master**, I attained the best overall Kaggle rank of 385 among 200,000+ users. Additionally, I have engaged in various research activities and authored multiple research publications. Currently, I am working as a machine learning engineer.

EDUCATION

- **Bachelor of Science in Computer Science and Engineering** March 2018 — May 2023
Bangladesh University of Engineering and Technology
CGPA : 3.83 (out of 4.00) | Enlisted for Deans List Award

EXPERIENCE

- **Machine Learning Engineer** Jun 2023 — Current
IQVIA
 - Developing a general and multi-purpose fine-tuned Large Language Model
 - Developing intelligent agents to answer clients' natural language queries
 - Developing FastAPI & FlaskAPI for the ML algorithms to communicate with the backend
 - Onboarding duties of recently joined employees
- **Research Intern** Jan 2022 — Dec 2023
Xu Lab
Carnegie Mellon University
 - Improved the understanding of different sentence components in multiple video-language joint learning tasks.
 - Devised a solution to detect anomalous events in automated tools during experiments in a laboratory using recorded videos.
 - completed the writing of two scientific manuscripts. One accepted and another under review.
 - Supervised one undergraduate student in a research work

RESEARCH PUBLICATIONS

- "Leveraging Generative Language Models for Weakly Supervised Sentence Component Analysis in Video-Language Joint Learning",
ZIA Hakim*, NH Sarker*, RP Singh, B Paul, A Dabouei, M Xu
[Paper Link](#)
- "ArtiFact: A Large-Scale Dataset with Artificial and Factual Images for Generalizable and Robust Synthetic Image Detection",
MA Rahman*, B Paul*, NH Sarker*, ZIA Hakim*, SA Fattah
Published in 2023 IEEE International Conference on Image Processing (ICIP 2023)
[Paper Link](#) [Dataset](#)
- "Detecting Anomalies from Liquid Transfer Videos in Automated Laboratory Setting",
NH Sarker, ZIA Hakim, A Dabouei, MR Uddin, Z Freyberg, A MacWilliams, J Kangas, M Xu
Published in Frontiers in Molecular Biosciences (under AI in Biological and Biomedical Imaging)
[Paper Link](#)
- "Attention-Driven Multi-Modal Fusion: Enhancing Sign Language Recognition and Translation",
ZIA Hakim, RM Swargo, MA Adnan
Arxiv Preprint
[Paper Link](#)

MACHINE LEARNING COMPETITIONS

- **SIIM-FISABIO-RSNA COVID-19 Detection** Aug 2021
Identify and localize COVID-19 abnormalities on chest radiograph images
4th Place out of 1305 teams. (Gold Medal Winner at Kaggle) | Best Student Team Award Winner
- **HP Presents Kaggle Days World Championship 2022** Sept 2022
Winner of Shanghai Regional
Selected as one of the top 36 data science teams globally to participate in the final event at Barcelona, Spain
- **Deep Chimpact** Nov 2021
Depth Estimation of animals from Images for Wildlife Conservation
Winner | *1st Place out of 313 teams*
- **IEEE Signal Processing Cup** May 2022
Differentiation between original human speech and synthetic speech.
Winner | Presented our solution at ICASSP 2022, Singapore
- **IEEE Video & Image Processing Cup** Sept 2022
Synthetic Image Detection.
First Runner-up
- **NFL 1st and Future - Impact Detection** Jan 2021
Detection of helmet impacts between players in videos of NFL games.
25th Place out of 460 teams. (Silver Medal Winner at Kaggle)

SOFTWARE PROJECTS

- **How Are You**
A Mental Health Screening Site
Used Flask, ReactJS and PostgreSQL
- **BUET Alumni Portal**
An Portal For Alumni for my university
Used Django, HTML, CSS, JavaScript and PostgreSQL

EXTRA CURRICULAR ACTIVITIES

- **Technical Committee Chair** May 2022 - May 2023
IEEE Computer Society
"Bangladesh Univerisity Of Engineering & Technology (BUET)" Student Branch Chapter
- **Organizer** Jul 2022
DL Sprint - BUET CSE Fest 2022
First Inter-University Deep Learning Competition hosted by BUET
This competition won **Kaggle Community Competition Creator Prize: July Month** for its problem statement, community involvement, and impact
- **Speaker : Introduction to Kaggle and Deep Learning** Jun 2022
An introductory workshop organized by "IEEE Computer Society BUET Student Branch"
150+ students from different universities attended this session