

Education

Doctor of Philosophy (Ph.D)

Computer Science and Engineering (Current CGPA 3.92/4.00)
Research Topics: Multimodal Machine Learning and Computer Vision

University of California, Riverside
September 2022 – Present
Supervisor: [Dr. M. Salman Asif](#)

Bachelor of Science (with Honors)

Computer Science and Engineering (CGPA 3.94/4.00)
Research Topics: Natural Language Processing

Bangladesh University of Engineering & Technology (BUET)
February 2015 - April 2019
Supervisor: [Dr. M. Sohel Rahman](#)

Research Interests and Publications

Research Interests

My interests broadly span the area of Multimodal ML and Computer Vision. Currently I am working on:

- Multimodal data fusion which is robust to missing, noisy, occluded and unaligned modalities
- Incorporating new modalities to existing models without increasing computational overhead significantly
- Methods for extracting information from noisy/unaligned/low-resolution data & test time model adaptation

Robust Multimodal Learning with Missing Modalities via Parameter-Efficient Adaptation

Md Kaykobad Reza, Ashley Prater-Bennette, M. Salman Asif

[arXiv](#) | [Webpage](#)

Proposed a parameter efficient adaptation method for multimodal models that can enhance missing modality performance by up to 31.46%

MMSFormer: Multimodal Transformer for Material and Semantic Segmentation

Md Kaykobad Reza, Ashley Prater-Bennette, M. Salman Asif

[arXiv](#) | [Webpage](#) | [Code](#)

Proposed a novel fusion strategy and model for multimodal material and semantic segmentation that outperforms current state of the art models for all modality combinations

Automatic Summarization of Scientific Articles from Biomedical Domain

[IJCCI 2019](#)

Md Kaykobad Reza, Rifat Rubayatul Islam, Sadik Siddique, Md. Mostofa Akbar, M. Sohel Rahman

Proposed an algorithm for generating summaries automatically that outperforms traditional methods

Work Experience

Graduate Student Researcher

University of California, Riverside

September 2022 – Present
California, USA

- Proposed a [parameter efficient adaptation technique](#) for multimodal models that can enhance missing modality performance by up to 31.46%
- Designed a novel fusion strategy and model named [MMSFormer](#) for multimodal material and semantic segmentation that outperforms current state of the art models in all modality combinations

Senior Engineer, Software Research & Engineering

bKash Limited (Joint venture of Money in Motion, Ant Group & SoftBank)

July 2019 – August 2022
Dhaka, Bangladesh

- Developed a solution for receiving remittance to bKash digital wallet directly from popular platforms like **Payoneer**, **Wise** and **Remitly** resulting in **17%** increase in total number of active users.
- Worked with **bKash Customer App** team to link bKash digital wallet to **36** government and private banks for real time and secure money transfers.
- Worked with **bKash Merchant App** team to build a real-time dashboard for small to large businesses.
- Collaborated with **bKash Payment Gateway** team for implementing fast and secure payment solution resulting in a **23.2%** increase in user engagement and **12.6%** increase in total yearly revenue.
- Our team also implemented send money, mobile recharge, cash out and deposit pension scheme (DPS).

Software Engineer, Mobile Application

Samsung Research & Development Institute, Bangladesh

May 2019 – July 2019

Dhaka, Bangladesh

- I worked as an iOS application developer and worked in Mobile Application Group - 1.
- My primary responsibilities were to develop mobile applications, ensure code quality and fix critical bugs.

Machine Learning Projects

Language generation using RNNLM (NLP Project)

Deep Learning, Keras | [Github](#)

Used Quora question pair dataset to generate sentences for gap filling & template-based sentence generation.

Automated Lawn Mower (Hardware Project)

Deep Learning, Computer Vision | [Youtube](#)

Automated device using computer vision, camera, sonar sensors to detect and cut grass, avoiding obstacles.

Weather Station (Microcontroller Project)

Machine Learning, Microcontroller | [Youtube](#)

A compact device that monitors current weather, stores data, conducts analysis and predicts future weather.

Software Projects

Dyne: Meet Your Friends Over Food (Social Media App)

Flutter, Firebase, NodeJs, Geolocation | [Details](#)

Social app for instant food meetups, exploring restaurants, chatting, coupons, fostering connections & savings.

Dorao: Your Running Companion (Fitness Tracker App)

Flutter, Firebase, Django, Geolocation | [Details](#)

Track walks/runs, log time & distance, real-time stats, create group, complete daily challenges & earn rewards.

Procurement Institute (Tender Management Solution)

Flutter, Firebase, In-App Purchase | [Details](#)

Find out all the gazetted tenders, see details, search or filter, save for later, subscribe for alerts and reminders.

Payvor: Pay & Get Paid for a Favor (Freelance Platform)

Flutter, Firebase, C# .NET, Stripe | [Details](#)

Post job/apply for job, select preferred applicant, assign the job, get the work done, make payment or get paid.

Kalimera (Tourist Guide App in Greece)

Flutter, Firebase, Geolocation, In-App Purchase | [Details](#)

Find out hotels, tourist spots, restaurants, transportation, events, adventures and everything at your fingertips.

Pessa: Real-Time Financial Transaction (FinTech App)

Flutter, Firebase, C# .NET | [Details](#)

All-in-one mobile wallet for seamless money management. Add money, send funds instantly, cash out, & more.

Cherished Prayers (Social Media for the Pious)

Flutter, Firebase, Django, Real-Time Chat | [Details](#)

Record, share, seek solutions, connect with others via chat, groups, and feedback for an enriched experience.

Skills

Soft Skills

Communication, Collaboration, Problem Solving

Programming Languages

Python, Dart, Java, C/C++

Library/Frameworks

PyTorch, TensorFlow, Huggingface, Sk-learn, OpenCV, NumPy, Pandas, Matplotlib, Flutter, Django

Database

MySQL, PostgreSQL, HBase, Firebase Firestore, Firebase Realtime DB

Software/Technologies

Anaconda, PyCharm, Android Studio, VSCode, Firebase, RestAPI, GraphQL, FastAPI, Git

Leadership

Vice President

Greater Rangpur Students' Welfare Association, BUET Aug 2018 – May 2019

Class Representative

Department of Computer Science & Engineering, BUET April 2016 - April 2019

Awards

Dean's Distinguished Fellowship

University of California, Riverside

Fall'22 - Spring'23

Department Dean's List Award

Bangladesh University of Eng. & Tech. (BUET)

2015 - 2019

University Merit Scholarship

Bangladesh University of Eng. & Tech. (BUET)

2015 - 2019

MetLife Pathways Scholarship

MetLife Foundation

2015 - 2018

Education Board Scholarship

Bangladesh Education Board

2012 - 2018