

Education

Doctor of Philosophy (Ph.D)

Computer Science and Engineering (Current CGPA 4.00/4.00)

University of California, Riverside

September 2022 – Present

Research Topics: Multimodal Machine Learning and Computer Vision

Bachelor of Science (with Honors)

Computer Science and Engineering (CGPA 3.94/4.00)

Bangladesh University of Engineering & Technology (BUET)

February 2015 - April 2019

Major: Artificial Intelligence and Machine Learning | **Research Topic:** Automatic Text Summarization

Work Experience

Graduate Student Researcher

University of California, Riverside

September 2022 – Present

California, USA

Research Topics: Multimodal Machine Learning and Computer Vision | **Supervisor:** [Dr. M. Salman Asif](#)

Senior Engineer, Software Research & Engineering

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

July 2019 – August 2022

Dhaka, Bangladesh

- I worked in the **bKash Merchant App**, **bKash Customer App** and **bKash Payment Gateway** team.
- My primary responsibilities were to develop and implement new user-centric features and improvements, optimize performance, and ensure code adheres to best practices, design patterns, and guidelines through unit tests, refactoring, and bug fixes for an enhanced user experience.

Software Engineer, Mobile Application Group

Samsung Research & Development Institute, Bangladesh

May 2019 – July 2019

Dhaka, Bangladesh

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

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 (Gazetted Tender Management App)

Flutter, Firebase, Subscription | [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 Jobs App)

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 | [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 App for the Pious)

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

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

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)**

Computer Vision, Raspberry Pi | [Youtube](#)
- Automated device using computer vision, camera, sonar sensors to detect and cut grass, avoiding obstacles.
- Weather Station (Hardware Project)**

Microcontroller | [Youtube](#)
- A compact device that monitors current weather, stores data, conducts analysis and predicts future weather.

Research Interests and Publications

- Research Interests**

My research interests include but not limited to

- Multimodal Machine Learning, Computer Vision, Natural Language Processing
 - Multimodal data fusion which is robust to missing modalities
 - Methods for extracting useful information from noisy/unaligned/low resolution data
- Robust Multimodal Learning with Missing Modalities via Parameter-Efficient Adaptation**

Under Review

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

- **Submitted to:** [ICLR 2024](#) | [arXiv](#) | [Webpage](#)
 - **Supervisor:** [Dr. M. Salman Asif](#)
- Multimodal Transformer for Material Segmentation**

Under Review

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

- **Submitted to:** [OJSP - ICASSP 2024](#) | [arXiv](#) | [Webpage](#)
 - **Supervisor:** [Dr. M. Salman Asif](#)
- Automatic Summarization of Scientific Articles from Biomedical Domain**

IJCCI 2019

Proposed an algorithm for generating summaries automatically that outperforms traditional methods

- **Published in:** [International Joint Conference on Computational Intelligence 2019](#)
 - **Supervisor:** [Dr. M. Sohel Rahman](#)

Technical skills

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 - 2019