

## Education

### Doctor of Philosophy (Ph.D)

Computer Science and Engineering (Current CGPA 4.00/4.00)

University of California, Riverside

Spetember 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

## 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

## Work Experience

### Teaching Assistant

University of California, Riverside

September 2023 – Present

California, USA

**Course:** CS 171/EE 142: Introduction to Machine Learning and Data Mining

### 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

<b>Dyne: Meet Your Friends Over Food (Social Media App)</b>	Flutter, Firebase, NodeJs, Geolocation   <a href="#">Details</a>
Social app for instant food meetups, exploring restaurants, chatting, coupons, fostering connections & savings.	
<b>Dorao: Your Running Companion (Fitness Tracker App)</b>	Flutter, Firebase, Django, Geolocation   <a href="#">Details</a>
Track walks/runs, log time & distance, real-time stats, create group, complete daily challenges & earn rewards.	
<b>Procurement Institute (Gazetted Tender Management App)</b>	Flutter, Firebase, Subscription   <a href="#">Details</a>
Find out all the gazetted tenders, see details, search or filter, save for later, subscribe for alerts and reminders.	
<b>Payvor: Pay &amp; Get Paid for a Favor (Freelance Jobs App)</b>	Flutter, Firebase, C# .NET, Stripe   <a href="#">Details</a>
Post job/apply for job, select preferred applicant, assign the job, get the work done, make payment or get paid.	
<b>Kalimera (Tourist Guide App in Greece)</b>	Flutter, Firebase, Geolocation   <a href="#">Details</a>
Find out hotels, tourist spots, restaurants, transportation, events, adventures and everything at your fingertips.	
<b>Pessa: Real-Time Financial Transaction (FinTech App)</b>	Flutter, Firebase, C# .NET   <a href="#">Details</a>
All-in-one mobile wallet for seamless money management. Add money, send funds instantly, cash out, & more.	
<b>Cherished Prayers (Social Media App for the Pious)</b>	Flutter, Firebase, Django   <a href="#">Details</a>
Record, share, seek solutions, connect with others via chat, groups, and feedback for an enriched experience.	
<b>Language generation using RNNLM (NLP Project)</b>	Deep Learning, Keras   <a href="#">Github</a>
Used Quora question pair dataset to generate sentences for gap filling & template-based sentence generation.	
<b>Automated Lawn Mower (Hardware Project)</b>	Computer Vision, Raspberry Pi   <a href="#">Youtube</a>
Automated device using computer vision, camera, sonar sensors to detect and cut grass, avoiding obstacles.	
<b>Weather Station (Hardware Project)</b>	Microcontroller   <a href="#">Youtube</a>
A compact device that monitors current weather, stores data, conducts analysis and predicts future weather.	

## Technical skills

<b>Programming Languages</b>	Python, Dart, Java, C/C++
<b>Library/Frameworks</b>	PyTorch, TensorFlow, Huggingface, Sk-learn, OpenCV, NumPy, Pandas, Matplotlib, Flutter, Django
<b>Database</b>	MySQL, PostgreSQL, HBase, Firebase Firestore, Firebase Realtime DB
<b>Software/Technologies</b>	Anaconda, PyCharm, Android Studio, VSCode, Firebase, RestAPI, GraphQL, FastAPI, Git

## Leadership

<b>Vice President</b>	Greater Rangpur Students' Welfare Association, BUET	Aug 2018 – May 2019
<b>Class Representative</b>	Department of Computer Science & Engineering, BUET	April 2016 - April 2019

## Awards

<b>Dean's Distinguished Fellowship</b>	University of California, Riverside	Fall'22 - Spring'23
<b>Department Dean's List Award</b>	Bangladesh University of Eng. & Tech. (BUET)	2015 - 2019
<b>University Merit Scholarship</b>	Bangladesh University of Eng. & Tech. (BUET)	2015 - 2019
<b>MetLife Pathways Scholarship</b>	MetLife Foundation	2015 - 2018
<b>Education Board Scholarship</b>	Bangladesh Education Board	2012 - 2019