Md Kaykobad Reza

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Education

Doctor of Philosophy (Ph.D)   *University of California, Riverside*
Computer Science and Engineering (Current CGPA 4.00/4.00)   *Spetember 2022 – Present*
Research Topics: Multimodal Machine Learning and Computer Vision
Ongoing Research: Find a better data fusion strategy which is robust to missing modalities and able to extract information from noisy data and/or data taken under extreme conditions (dark, fog, blur, misalignment etc.)

Bachelor of Science (with Honors)   *Bangladesh University of Engineering & Technology (BUET)*
Computer Science and Engineering (CGPA 3.94/4.00)   *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
- Extract useful information from noisy/low resolution data

Robust Multimodal Learning with Missing Modalities via Parameter-Efficient Adaptation   *Under Review*
Proposed a parameter efficient approach to adapt multimodal models to different missing modality scenarios

- **Submitted to:** ICLR 2024
- **Supervisor:** Dr. M. Salman Asif

Multimodal Transformer for Material Segmentation   *Under Review*
Proposed a novel fusion strategy and segmentation model for multimodal material segmentation

- **Submitted to:** OJSP - ICASSP 2024
- **Supervisor:** Dr. M. Salman Asif

Automatic Summarization of Scientific Articles from Biomedical Domain   *IJCCI 2019*
Proposed a new algorithm named WordRank for generating summaries automatically from scientific articles

- **Published in:** International Joint Conference on Computational Intelligence
- **Supervisor:** Dr. M. Sohel Rahman

Work Experience

Graduate Student Researcher   *September 2022 – Present*
University of California, Riverside   *California, USA*

- I am currently working as a Graduate Student Researcher under the supervision of Dr. M. Salman Asif
- **Research Topics:** Multimodal Machine Learning and Computer Vision

Senior Engineer, Software Research & Engineering   *July 2019 – August 2022*
bKash Limited (Leading FinTech Company in Bangladesh)   *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   *May 2019 – July 2019*
Samsung Research & Development Institute, Bangladesh   *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, stay motivated with daily challenges, log time & distance, track stats, stay fit, and save money.

Procurement Institute (Gazetted Tender Management App)   *Flutter, Firebase, RevenueCat | Details*
One-stop solution for gazetted tenders, making it easy and reliable to find and learn about preferred tenders.

Payvor: Pay & Get Paid for a Favor (Freelance Jobs App)   *Flutter, Firebase, C# .NET | Details*
Instantly connect with diverse people for any task, matching you within minutes – your reliable invisible friend.

Kalimera (Tourist Guide App)   *Flutter, Firebase, Geolocation | Details*
From popular spots to hidden gems, ensuring the best experiences & creating cherished memories in Greece.

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.

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*