ABDUL AZIZ

Chattogram-4202, Bangladesh

RESEARCH INTERESTS

Multimodal Generative AI, Time Series Modeling, LLM/VLM Reasoning and Applications, Biomedical and Health Informatics, Multilingual and Low-resource NLP, Trustworthy ML, NLP, and Computer Vision.

EDUCATION

B.Sc. (Engg.) in Computer Science and Engineering

Jan 2018 - Sep 2023

University of Chittagong, Chattogram-4331, Bangladesh

CGPA: 3.64/4.0 (3.88 in last 60 credits; last three years GPA: 3.81; major GPA: 3.78)

Class Rank: 8th out of 61

Undergraduate Thesis: Multimodal Human Desire Understanding on Social Media Data

Advisor: Prof. Nihad Karim Chowdhury and Dr. Abu Nowshed Chy

TEACHING EXPERIENCE

Adjunct Lecturer

May 2024 - Present

Department of Computer Science and Engineering

International Islamic University Chittagong (IIUC), Chattogram-4314, Bangladesh

RESEARCH EXPERIENCE

Research Assistant

Apr 2020 - Present

- At CSECU-DSG Lab, University of Chittagong, Bangladesh;
 - -Advisor: Dr. Abu Nowshed Chy
 - -Projects: Multimodal Vision-language Tasks (C1, J1, W1, W2), Multilingual and Low-resource NLP Tasks (C2, C4, W7, W8), Lexical Complexity Prediction (C4, J2, W9), NER (C3, W8), Causality Identification (W3, W5, W10), Health Informatics (W6), Human Value Identification (W4)

Research Collaboration

• With KDE Lab, Toyohashi University of Technology, Japan;

Jan 2021 - Dec. 2023

- -Advisor: Prof. Dr. Masaki Aono
- -Projects: Lexical Complexity Prediction (J2)
- With Prof. Dr. Md Zia Ullah, Edinburgh Napier University, UK; Jan 2021 Present
 -Projects: Multimodal Complaint Detection (C1), NER (C3), Lexical Complexity Prediction (J2)
- With Prof. Dr. Muhammad Ashad Kabir, Charles Sturt University, Australia; Apr 2022 Present –Projects: Multimodal Desire Understanding (J1)

C: Conference Paper, J: Journal Paper, W: Workshop/Technical Paper from Research Publication section

RESEARCH PUBLICATIONS

International Conference Papers (C):

* implies equal contributions

- C1. <u>Abdul Aziz</u>, Md. Akram Hossain, Abu Nowshed Chy, and, Md Zia Ullah, *Multimodal Complaint Detection Using Sentiment and Emotion-Aided Multitask Contrastive Learning Model*, COLING 2025 (Long Paper). [Under Review]
- C2. <u>Abdul Aziz</u>, Md. Akram Hossain, and Abu Nowshed Chy, Can Contrastive Learning Enhance Codemixed Text Understanding? A study on Multitask Sentiment and Emotion Analysis, NAACL 2025 (Short Paper). [Under Review]

- C3. Md. Akram Hossain, <u>Abdul Aziz</u>, Muhammad Anwarul Azim, Abu Nowshed Chy, Md Zia Ullah, and Mohammad Khairul Islam, *BiGCAT: An Integrated Graph Neural Network Model for Financial Named Entity Recognition*, NAACL 2025 (Long Paper). [Under Review]
- C4. Nabila Ayman, Md. Akram Hossain*, <u>Abdul Aziz*</u>, Rokan Uddin Faroqui, and Abu Nowshed Chy, BengaliLCP: A Dataset for Lexical Complexity Prediction in the Bengali Texts, LREC-COLING 2024, Torino, Italia (Long Paper). (PDF)

International Journal Papers (J):

* implies equal contributions

- J1. <u>Abdul Aziz</u>, Nihad Karim Chowdhury, Muhammad Ashad Kabir, Abu Nowshed Chy, and Md. Jawad Siddique, *MMTF-DES: A Fusion of Multimodal Transformer Models for Desire, Emotion, and Sentiment Analysis of Social Media Data*, Elsevier Neurocomputing Journal [Under Review] (arXiv PDF)
- J2. <u>Abdul Aziz*</u>, Md. Akram Hossain*, Abu Nowshed Chy, Md Zia Ullah, and Masaki Aono, *Leveraging Contextual Representations with BiLSTM-based Regressor for Lexical Complexity Prediction*, Elsevier Natural Language Processing Journal, Vol. 05, No. 100039, 2023. (PDF)

International Workshop/Technical Papers (W):

* implies equal contributions

- W1. <u>Abdul Aziz</u>, Md. Akram Hossain, and Abu Nowshed Chy, *CSECU-DSG at CheckThat! 2023:* Transformer-based Fusion Approach for Multimodal and Multigenre Check-Worthiness, CLEF 2023, Thessaloniki, Greece. (PDF) [Winning Team]
- W2. <u>Abdul Aziz</u>, Md. Akram Hossain, and Abu Nowshed Chy, CSECU-DSG@ Multimodal Hate Speech Event Detection 2023: Transformer-based Multimodal Hierarchical Fusion Model For Multimodal Hate Speech Detection, CASE@RANLP 2023, Varna, Bulgaria. (PDF) [5th out of 13 teams]
- W3. Md. Akram Hossain, <u>Abdul Aziz</u>, and Abu Nowshed Chy, *CSECU-DSG @ Causal News Corpus* 2023: Leveraging RoBERTa and DeBERTa Transformer Model with Contrastive Learning for Causal Event Classification, CASE@RANLP 2023, Varna, Bulgaria. (PDF) [4th out of 10 teams]
- W4. <u>Abdul Aziz*</u>, Md. Akram Hossain*, and Abu Nowshed Chy, CSECU-DSG at SemEval-2023 Task 4: Fine-tuning DeBERTa Transformer Model with Cross-fold Training and Multi-sample Dropout for Human Values Identification, SemEval@ACL 2023, Toronto, Canada. (PDF) [8th out of 20 teams]
- W5. <u>Abdul Aziz*</u>, Md. Akram Hossain*, and Abu Nowshed Chy, CSECU-DSG @ Causal News Corpus 2022: Fusion of RoBERTa Transformers Variants for Causal Event Classification, CASE@EMNLP 2022, Abu Dhabi, United Arab Emirates. (PDF) [Winning Team]
- W6. <u>Abdul Aziz*</u>, Md. Akram Hossain*, and Abu Nowshed Chy, *Enhancing the DeBERTa Transformers Model for Classifying Sentences from Biomedical Abstracts*, ALTA 2022, Adelaide, Australia. (PDF) [2nd out of 5 teams]
- W7. <u>Abdul Aziz*</u>, Md. Akram Hossain*, and Abu Nowshed Chy, *CSECU-DSG at SemEval-2022 Task* 3: Investigating the Taxonomic Relationship Between Two Arguments using Fusion of Multilingual Transformer Models, SemEval@NAACL 2022, Washington, USA. (PDF) [4th out of 21 teams]
- W8. <u>Abdul Aziz*</u>, Md. Akram Hossain*, and Abu Nowshed Chy, *CSECU-DSG at SemEval-2022 Task* 11: Identifying the Multilingual Complex Named Entity in Text Using Stacked Embeddings and Transformer based Approach, SemEval@NAACL 2022, Washington, USA. (PDF) [9th out of 20 teams]
- W9. <u>Abdul Aziz*</u>, Md. Akram Hossain*, and Abu Nowshed Chy, *CSECU-DSG at SemEval-2021 Task*1: Fusion of Transformer Models for Lexical Complexity Prediction, SemEval@ACL-IJCNLP 2021,
 Bangkok, Thailand. (PDF) [9th out of 55 teams]
- W10. <u>Abdul Aziz*</u>, Md. Akram Hossain*, and Abu Nowshed Chy, Feature Fusion with Hand-crafted and Transfer Learning Embeddings for Cause-Effect Relation Extraction, CEREX@FIRE 2020, Hyderabad, India. (PDF) [Winning Team]

MOBILE APP PROJECTS

Online Hospital Management System [Project URL: HMS]

Jan, 2022 - Aug, 2022

- A project of Mobile App Development Lab Course (CSE 618), University of Chittagong
- Features: Online Appointment, Telemeeting, Digital Prescription, Online Payment Gateway, Plot Generation from Data, and Encryption.
- Deliverables: High Level Architectural Design and Software Requirement Specification (SRS).

ACHIEVEMENTS

1st Place (Winning Team) in CheckThat!@CLEF-2023 Subtask 1A Arabic

Aug 2023

Task: Check-Worthiness in Multimodal and Multigenre Content (Task Website)

Paper Title: CSECU-DSG at CheckThat! 2023: Transformer-based Fusion Approach for Multimodal and Multigenre Check-Worthiness (PDF)

1st Place (Winning Team) in CASE@EMNLP-2022 Subtask 1

Dec, 2022

Task: Event Causality Identification (Task Website)

Paper Title: CSECU-DSG@Causal News Corpus 2022: Fusion of RoBERTa Transformers Variants for Causal Event Classification (PDF)

1st Place (Winning Team) in CEREX@FIRE2020 Task A

Dec, 2020

Task: Automatic Cause-effect Relation Extraction from Text (Task Website)

Paper Title: Feature Fusion with Hand-crafted and Transfer Learning Embeddings for Cause-Effect Relation Extraction (PDF)

2nd Place in ALTA-2022 Shared Task

Dec, 2022

Task: Biomedical Abstracts Classification for Evidence-Based Medicine (Task Website)

Paper Title: Enhancing the DeBERTa Transformers Model for Classifying Sentences from Biomedical Abstracts (PDF)

4th Place in PreTENS-SemEval@NAACL-2022 Subtask 1

Jul. 2022

Task: Presupposed Taxonomies: Evaluating Neural Network Semantics (PreTENS) (Task Website)

Paper Title: CSECU-DSG at SemEval-2022 Task 3: Investigating the Taxonomic Relationship Between Arguments using Fusion of Multilingual Transformer Models (PDF)

4th Place in CASE@RANLP-2023 Subtask 1

Sep, 2023

Task: Event Causality Identification (Task Website)

Paper Title: CSECU-DSG @ Causal News Corpus 2023: Leveraging RoBERTa and DeBERTa Transformer Model with Contrastive Learning for Causal Event Classification (PDF)

EXTRA CURRICULAR ACTIVITIES

Conference Student Volunteer (Virtual)

- The 61st Annual Meeting of the ACL (ACL 2023)
- The 44th International ACM SIGIR Conference (SIGIR 2021)

Reviewer

* implies Sub-reviewer

- SemEval, CLEF, AACL-IJCNLP*, NAACL*

LANGUAGES AND IT SKILLS SET:

Human Languages: Bengali (Native), English (Proficient in all aspects)

Programming Languages: Python, C, C++, JAVA.

Machine Learning Libraries: PyTorch (implement most of the projects using it), TensorFlow, Huggingface, Scikit-learn, Keras, NLTK, Gensim, Simple Transformers, Flair, Pandas.

REFEREES

Available on request

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