ABDUL AZIZ

Chattogram-4202, Bangladesh

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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)
Undergraduate Thesis: Multimodal 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: Lexical Complexity Prediction (C3, J2, W9), Multimodal Vision-language Tasks (C1, J1, W1, W2), Causality Identification (W3, W5, W10), NER (C2, W8), Multilingual and Low-resource NLP Tasks (C2, J2, W7, W8), Health Informatics (W6), Human Value Identification (W4)

Research Collaboration

- At **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), Financial NER (C2), 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. **Abdul Aziz**, 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). (Submitted)

C2. **Abdul Aziz**, Md. Akram Hossain, and Abu Nowshed Chy, *Can Contrastive Learning Enhance Code-mixed Text Understanding? A study on Multitask Sentiment and Emotion Analysis*, NAACL 2025 (Short Paper). (Submitted)

C3. Md. Akram Hossain, **Abdul Aziz**, 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). (Submitted)

C4. Nabila Ayman, Md. Akram Hossain*, **Abdul Aziz***, 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. **Abdul Aziz**, 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, Vol. -, No. -, pp. -, 2024. (On Review) (Arxiv PDF)

J2. **Abdul Aziz***, 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. **Abdul Aziz**, 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) [**1st Place**]

W2. **Abdul Aziz**, 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)

W3. Md. Akram Hossain, **Abdul Aziz**, 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)

W4. **Abdul Aziz***, 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)

W5. **Abdul Aziz***, 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) [**1st Place**]

W6. **Abdul Aziz***, Md. Akram Hossain*, and Abu Nowshed Chy, *Enhancing the DeBERTa Transformers Model for Classifying Sentences from Biomedical Abstracts*, ALTA-2022, Adelaide, Australia. (PDF) [**2nd Place**]

W7. **Abdul Aziz***, 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, Seattle, Washington, USA. (PDF) [**4th Place**]

W8. **Abdul Aziz***, 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, Seattle, Washington, USA. (PDF)

W9. **Abdul Aziz***, 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)

W10. **Abdul Aziz***, 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) **[1st Place]**

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)

EXTRA CURRICULAR ACTIVITIES

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