Abdul Aziz

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Research Interests	Large-scale Language Models, Multimodal Information Processing, Multilingual and Low-resource NLP, Information Extraction, and Natural Language Processing.

Education

B.Sc. (Engg.) in Computer Science and Engineering   September 2023
University of Chittagong, Chattogram-4331, Bangladesh
CGPA: 3.64/4.0 (3.88 in last 60 credits; major GPA: 3.78; 8th out of 61)
Thesis: Multimodal Desire Understanding on Social Media Data
Advisor: Professor Nihad Karim Chowdhury and Abu Nowshed Chy

Research Experience

CSECU-DSG Lab, University of Chittagong, Bangladesh; Advisor: Dr. Abu Nowshed Chy (Undergraduate Research Assistant)
KDE Lab, Toyohashi University of Technology, Japan; Advisor: Dr. Masaki Aono (Research collaboration)
Zia Ullah's Lab, Edinburgh Napier University, UK; Advisor: Dr. Md Zia Ullah (Research collaboration)

Research Publications

International Journals: * implies equal contributions

1. **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 Information Fusion Journal, Vol. -, No. -, pp. -, 2023. (On Review) (Arxiv PDF)

2. **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)

Conference and Workshop Papers: * implies equal contributions
1. **Abdul Aziz**, Md. Akram Hossain, Abu Nowshed Chy, and, Md Zia Ullah *Multimodal Complaint Detection Using Sentiment and Emotion-Aided Multitask Contrastive Learning Model*, North American Chapter of the Association for Computational Linguistics (NAACL '24) (Long Paper). (On Review)

2. **Abdul Aziz**, Md. Akram Hossain, and Abu Nowshed Chy, *Sentiment and Emotion Analysis Using Transformer-based Multi-task Contrastive Learning Model on Code-mixed Tweets*, The 46th European Conference on Information Retrieval (ECIR '24) (Short Papers). (On Review)

3. Md. Akram Hossain, Muhammad Anwarul Azim, Abu Nowshed Chy, Mohammad Khairul Islam, Md Zia Ullah, and **Abdul Aziz** *BiGCAT: An Integrated Graph Neural Network Model for Financial Named Entity Recognition*, ECIR-2024. (On Review)

4. 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-COLLING-2024. (On Review)

5. **<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: Conference and Labs of the Evaluation Forum, September 18–21, 2023, Thessaloniki, Greece. (PDF)

6. **<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*, Proceedings of the 6th Workshop on Challenges and Applications of Automated Extraction of Socio-political Events from Text (CASE), CASE@RANLP-2023 (PDF)

7. 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*, Proceedings of the 6th Workshop on Challenges and Applications of Automated Extraction of Socio-political Events from Text (CASE), CASE@RANLP-2023 (PDF)

8. **<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*, Proceedings of the The 17th International Workshop on Semantic Evaluation (SemEval-2023), pages 1988–1994. (PDF)

9. **<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*, Proceedings of the 5th Workshop on Challenges and Applications of Automated Extraction of Socio-political Events from Text (CASE), CASE@EMNLP-2022, pages 138–142. (PDF)

10. **<u>Abdul Aziz</u>***, Md. Akram Hossain*, and Abu Nowshed Chy, *Enhancing the DeBERTa Transformers Model for Classifying Sentences from Biomedical Abstracts*, Proceedings of the The 20th Annual Workshop of the Australasian Language Technology Association (ALTA-2022), pages 156–160. (PDF)

11. **<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*, Proceedings of the 16th International Workshops on Semantic Evaluation (SemEval-2022), Pages 255–259. (PDF)

12. **<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*, Proceedings of the 16th International Workshops on Semantic Evaluation (SemEval-2022), Pages 255–259. (PDF)

13. **<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*, In Proceedings of the 15th International Workshop on Semantic Evaluation (SemEval-2021), pages 627–631. (PDF)

14. **<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, Forum for Information Retrieval Evaluation (FIRE 2020), Pages 756 - 764. (PDF)

Selected Research Projects	**Multimodal Information Processing** [January 2022 - Present] - Multimodal Complaint Detection [NAACL '24] (On Review) - Multimodal Desire Understanding [Information Fusion Journal '23] (On Review) - Multimodal Hate Speech Detection [CASE@RANLP '23] - Multimodal and Multigenre Check-Worthiness [CheckThat!@CLEF '23]
	Mutilingual and Low-resources NLP [December 2021 - Present] - Code-mixed Sentiment and Emotion Analysis [ECIR '24] (On Review) - Multilingual Taxonomic Relationship of Arguments [SemEval '22] - Multilingual and Code-mixed Complex NER [SemEval '22]
	Lexical Simplification [December 2020 - November 2023] - Multilingual Lexical complexity Prediction [LREC-COLING '24] (On Review) - Lexical Complexity Prediction [Elsevier NLP Journal '23, SemEval '21]
	Information Extraction [June 2020 - December 2023] - Financial NER [ECIR '24] - Event Causality Identification [CASE@RANLP '23, CASE@EMNLP '22] - Cause-Effect Relation Extraction [CEREX@FIRE '20]

Achievements:

1st Place (Winning Team) in CheckThat!@CLEF-2023 Subtask 1A Arabic - Paper Title: CSECU-DSG at CheckThat! 2023: Transformer-based Fusion Approach for Multimodal and Multigenre Check-Worthiness (PDF)

2nd Place in ALTA-2022 Shared Task - Paper Title: Enhancing the DeBERTa Transformers Model for Classifying Sentences from Biomedical Abstracts (PDF)

1st Place (Winning Team) in CASE@EMNLP-2022 Subtask 1 - Paper Title: CSECU-DSG@Causal News Corpus 2022: Fusion of RoBERTa Transformers Variants for Causal Event Classification (PDF)

4th Place in PreTENS@SemEval-2022 Subtask 1 - Paper Title: CSECU-DSG at SemEval-2022 Task 3: Investigating the Taxonomic Relationship Between Two Arguments using Fusion of Multilingual Transformer Models (PDF)

1st Place (Winning Team) in CEREX@FIRE2020 Task A - Paper Title: Feature Fusion with Hand-crafted and Transfer Learning Embeddings for Cause-Effect Relation Extraction (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
- SemEval, CLEF, AACL-IJCNLP (Sub-reviewer)

Research Training:

ACL Year-Round Mentorship
Mentorship network that helps and supports junior researchers in natural language processing (NLP), 2021-2023

IT Skills Set:

Libraries and Tools :
Pytorch, **TensorFlow**, **Huggingface**, Scikit-learn, Keras, NLTK, Gensim, Simple Transformers, Flair, BeautifulSoup, Pandas.

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