Abdul Aziz

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Research Interests

Multimodal NLP, Multilingual and Low-resource NLP, Lexical Semantics, Information Extraction, Computational Linguistics, Natural Language Processing.

Education

B.Sc. (Engg.) in Computer Science and Engineering   2023
University of Chittagong, Chattogram, Bangladesh
- Focus areas: Multimodal NLP (Thesis: Multimodal Desire Understanding on Social Media Data)
  Advisor: Professor Nihad Karim Chowdhury

Research Experience

Research Assistant   2020 - Present
University of Chittagong, **CSECU-DSG Lab**, Chattogram, Bangladesh
- Founding member of **CSECU-DSG** research laboratory
- Research on *multimodal social computing, multilingual and low-resource task, lexical complexity prediction, cause-effect relation extraction, and named entity recognition*

Research Publications:

(* implies equal contributions)
International Journals:

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

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*, Natural Language Processing Journal , Vol. -, No. -, pp. -, 2023. (On Review)

Conference and Workshop Papers:

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*, The 46th European Conference on Information Retrieval (ECIR '24) (Long Paper). (In-Progress)

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). (In-Progress)

3. **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*, Proceedings

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

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

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

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

7. **Abdul Aziz***, 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)

8. **Abdul Aziz***, 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)

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

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

11. **Abdul Aziz***, 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)

12. **Abdul Aziz***, Md. Akram Hossain*, and Abu Nowshed Chy, *Feature Fusion with Hand-crafted and Transfer Learning Embeddings for Cause-Effect Relation Extraction 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:

- **Mutilingual and Code-mixed Task Understanding** [December 2021 - Present]
  - Multi-task Code-mixed Sentiment and Emotion Analysis [ECIR '24] (In-progress)
  - Multilingual Taxonomic Relationship of Arguments [SemEval '22]
  - Multilingual and Code-mixed Complex NER [SemEval '22]

- **Multimodal NLP for Social Good** [January 2022 - Present]
  - Multimodal Complaint Detection [ECIR '24] (In-progress)
  - Multimodal Human Desire Understanding [Elsevier Information Fusion Journal '23] (On Review)
  - Multimodal Hate Speech Detection on Rassia-Ukraine Crisis [CASE@RANLP '23]
  - Multimodal and Multigenre Check-Worthiness [CheckThat!@CLEF '23]

- **Lexical Simplification** [December 2020 - Present]
  - Multilingual Lexical complexity Prediction [LREC-COLING '24] (In-progress)
  - Complex word Identification and Lexical Complexity Prediction [Elsevier NLP Journal '23 (On Review), SemEval '21]

- **Causal Information Extraction** [June 2020 - August 2023]
  - Event Causality Identification [CASE@RANLP '23] (Accepted)
  - Causal Event Classification [CASE@EMNLP '22]
  - Cause-Effect Relation Extraction [CEREX@FIRE '20]

Achievements:

- **1st Place (Winning Team) in CheckThat!@CLEF-2023 Subtask 1A Arabic** - CSECU-DSG at CheckThat! 2023: Transformer-based Fusion Approach for Multimodal and Multigenre Check-Worthiness
- **2nd Place in ALTA-2022 Shared Task** - Enhancing the DeBERTa Transformers Model for Classifying Sentences from Biomedical Abstracts
- **1st Place (Winning Team) in CASE@EMNLP-2022 Subtask 1** - CSECU-DSG@Causal News Corpus 2022: Fusion of RoBERTa Transformers Variants for Causal Event Classification
- **4th Place in PreTENS@SemEval-2022 Subtask 1** - CSECU-DSG at SemEval-2022 Task 3: Investigating the Taxonomic Relationship Between Two Arguments using Fusion of Multilingual Transformer Models
- **1st Place (Winning Team) in CEREX@FIRE2020 Task A** - Feature Fusion with Hand-crafted and Transfer Learning Embeddings for Cause-Effect Relation Extraction

Extra Curricular Activities:

- **Student Volunteer**
  - The 61st Annual Meeting of the ACL (ACL 2023)
  - Intra-departmental competitive programming contest (2022 and 2023)
  - The 44th International ACM SIGIR Conference (SIGIR-2021)

- **Reviewer**
  - Semantic Evaluation (SemEval 2020-2023).
  - Conference and Labs of the Evaluation Forum (CLEF 2023)
  - AACL-IJCNLP-2023 (Sub-reviewer)