

# ABDUL AZIZ

Chittagong-4202, Bangladesh

☎ +88-01838375723

✉ [aziz.abdul.cu@gmail.com](mailto:aziz.abdul.cu@gmail.com) 🎓 [Google Scholar](#) 🌐 [Website](#) in [Linkedin](#)

## RESEARCH INTERESTS

Multimodal AI, Health Informatics, Medical Imaging, Medical Vision-Language Modeling, Medical Visual Question Answering, Signal Processing, Natural Language Processing, and Computer Vision.

## EDUCATION

B.Sc. (Engg.) in Computer Science and Engineering Jan 2018 - Sep 2023

[University of Chittagong](#) Chittagong, Bangladesh

CGPA: 3.64/4.0 (last three years GPA: 3.81; major GPA: 3.78; Ranked 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

Assistant Lecturer January 2025 - Present

Department of CSE, [International Islamic University Chittagong \(IIUC\)](#) Chittagong, Bangladesh

Adjunct Lecturer May 2024 - December 2024

Department of CSE, [International Islamic University Chittagong \(IIUC\)](#) Chittagong, Bangladesh

## RESEARCH EXPERIENCE

Research Assistant Apr 2020 - Present

- At [CSECU-DSG Lab](#) with [Dr. Abu Nowshed Chy](#), University of Chittagong, Chittagong, Bangladesh
  - 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)
  - Secured **first place at CLEF-2023, EMNLP-2022, and FIRE-2020** Conference's research track

Research Collaboration Jan 2021 - Present

- At [KDE Lab](#) with [Prof. Dr. Masaki Aono](#), Toyohashi University of Technology Toyohashi, Japan
  - Projects: Lexical Complexity Prediction (J2)
- With [Prof. Dr. Md Zia Ullah](#), Edinburgh Napier University Edinburgh, UK
  - Projects: Multimodal Complaint Detection (C1), NER (C3), Lexical Complexity Prediction (J2)

## PUBLICATIONS

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. ([URL](#))

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](#))

Conference and Workshop Papers (C) : \* implies equal contributions

C1. [Abdul Aziz](#), Md. Akram Hossain, Abu Nowshed Chy, and, Md Zia Ullah, *Multitask Contrastive Learning for Multimodal Complaint Detection*. Under Review at ACL Rolling Review (Long Paper).

- 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*, Under Review at ACL Rolling Review (Short Paper).
- C3. Md. Akram Hossain, **Abdul Aziz**, Muhammad Anwarul Azim, Abu Nowshed Chy, Md Zia Ullah, and Mohammad Khairul Islam, *BiGCAT: A Hybrid Graph Neural Network-Based Approach to Named Entity Recognition for Financial Text*. Under Review at ACL Rolling Review (Long Paper).
- C4. Nabila Ayman, Md. Akram Hossain\*, **Abdul Aziz\***, Rokan Uddin Farouqi, and Abu Nowshed Chy, *BengaliLCP: A Dataset for Lexical Complexity Prediction in the Bengali Texts*, LREC-COLING 2024, Torino, Italia (Long Paper). ([PDF](#))
- C5. **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](#))
- C6. **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](#))
- C7. 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](#))
- C8. **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](#))
- C9. **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](#))
- C10. **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](#))
- C11. **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, Washington, USA. ([PDF](#))
- C12. **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, Washington, USA. ([PDF](#))
- C13. **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](#))
- C14. **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](#))

## MOBILE APP PROJECTS

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- 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 (HLAD) and Software Requirement Specification (SRS)

## ACHIEVEMENTS

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**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

**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

**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

**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

**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

**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

## EXTRA RESEARCH ACTIVITIES

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**Conference Student Volunteer (Virtual)**

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

**Poster Presentations**

Undergraduate Thesis Week 2022 and 2023, Dept. of CSE at University of Chittagong

-Medical Visual Question Answering (7th Semester)

-Multimodal Human Desire Understanding on Social Media Data (8th Semester)

**Reviewer**

*\* implies Sub-reviewer*

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

## LANGUAGES AND IT SKILLS SET

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

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

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