# ABDUL AZIZ

Chittagong-4202, Bangladesh

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# **RESEARCH INTERESTS**

Multimodal Generative AI, Time Series Modeling, Biomedical and Health Informatics, Multilingual and Low-resource NLP, Trustworthy ML, AI for Social Good, Natural Language Processing.

# **EDUCATION**

B.Sc. (Engg.) in Computer Science and Engineering University of Chittagong, Chittagong-4331, Bangladesh CGPA: 3.64/4.0 (3.88 in last 60 credits; last three years GPA: 3.81; major GPA: 3.78) Rank: 8th out of 61 Undergraduate Thesis: Multimodal Desire Understanding on Social Media Data Advisor: Prof. Nihad Karim Chowdhury and Dr. Abu Nowshed Chy

# TEACHING EXPERIENCE

### **Adjunct Lecturer**

Department of Computer Science and Engineering International Islamic University Chittagong (IIUC), Chattogram-4314, Bangladesh

# **RESEARCH EXPERIENCE**

• At CSECU-DSG Lab, University of Chittagong, Bangladesh; -Advisor: Dr. Abu Nowshed Chy -Secured first place at CLEF-2023, EMNLP-2022, and FIRE-2020 Conference's research track

-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), NER (C2), Lexical Complexity Prediction (J2)
- C: Conference Paper, J: Journal Paper, W: Workshop/Technical Paper from Research Publication section

# PUBLICATIONS

#### International Conference Papers (C) :

- C1. Abdul Aziz, Md. Akram Hossain, Abu Nowshed Chy, and, Md Zia Ullah, Multitask Contrastive Learning for Multimodal Complaint Detection: A Sentiment and Emotion-Driven Approach, COLING 2025 (Long Paper). (Submitted)
- C2. Abdul Aziz, 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). (Submitted)

May 2024 - Present

Apr 2020 - Present

\* implies equal contributions

**Research** Assistant

Jan 2018 - Sep 2023

- C3. Md. Akram Hossain, <u>Abdul Aziz</u>, 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*, NAACL 2025 (Long Paper). (Submitted)
- C4. Nabila Ayman, Md. Akram Hossain<sup>\*</sup>, <u>Abdul Aziz<sup>\*</sup></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. (Submitted) (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 A project of Mobile App Development Lab Course (CSE 618), University of Chittagong- Features: Online Appointment, Telemeeting, Digital Prescription, Online Payment Gateway,<br>eration from Data, and Encryption Deliverables: High Level Architectural Design and Software Requirement Specification (SRS) | Plot Gen-             |
|--|-----------------------|
| ACHIEVEMENTS   |                       |
| <b>1st Place (Winning Team) in CheckThat!@CLEF-2023 Subtask 1A Arabic</b><br>Task: Check-Worthiness in Multimodal and Multigenre Content (Task Website)<br>Paper Title: CSECU-DSG at CheckThat! 2023: Transformer-based Fusion Approach for Multi  | Aug 2023<br>modal and |
| Multigenre Check-Worthiness (PDF)  |                       |
| <b>1st Place (Winning Team) in CASE@EMNLP-2022 Subtask 1</b><br>Task: Event Causality Identification (Task Website)  | Dec, 2022             |
| Paper Title: CSECU-DSG@Causal News Corpus 2022: Fusion of RoBERTa Transformers V<br>Causal Event Classification (PDF)  | ariants for           |
| <b>1st Place (Winning Team) in CEREX@FIRE2020 Task A</b><br>Task: Automatic Cause-effect Relation Extraction from Text (Task Website)  | Dec, 2020             |
| Paper Title: Feature Fusion with Hand-crafted and Transfer Learning Embeddings for Cause-E tion Extraction (PDF)   | ffect Rela-           |
| 2nd Place in ALTA-2022 Shared Task   | Dec, 2022             |

Jul. 2022

#### 2nd Place in ALTA-2022 Shared Task

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

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)

# **ONLINE CERTIFICATIONS**

DeepLearning.AI TensorFlow Developer Specialization in Coursera (Contains 4 Courses) -Introduction to TensorFlow for Artificial Intelligence, Machine Learning, and Deep Learning

-Convolutional Neural Networks in TensorFlow

-Natural Language Processing in TensorFlow

-Sequences, Time Series and Prediction

# **Deep Learning Specialization in Coursera** (Contains 5 Courses)

-Neural Networks and Deep Learning

-Convolutional Neural Networks

-Sequence Models

-Improving Deep Neural Networks: Hyperparameter Tuning, Regularization and Optimization -Structuring Machine Learning Projects

# Natural Language Processing Specialization in Coursera (Contains 4 Courses)

-Natural Language Processing with Classification and Vector Spaces

-Natural Language Processing with Probabilistic Models

-Natural Language Processing with Sequence Models

-Natural Language Processing with Attention Models

All Courses Certifications: Certification's 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\*, NAACL\*

\* implies Sub-reviewer

# 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. IDE Experiences: Colaboratory, PyCharm, Code Blocks, Visual Studio, Turbo C, Notepad++, LaTeX.

### PERSONAL DETAILS

Full Name: Abdul Aziz
Father's Name: Abul Kasem
Mother's Name: Farida Yasmin
Date of Birth: 01-01-1999
Place of Birth: Chittagong, Bangladesh.
Civil Status: Unmarried
Nationality: Bangladeshi (By Birth)
Present Address: Sadi Villa, West Khulshi R/A, Khulshi, Chittagong, Bangladesh
Permanent Address: Vill: Kayarbil, P.O.: Kutubdia, Upazilla: Kutubdia, Cox's Bazar, Chittagong, Bangladesh.

# REFEREES

Dr. Abu Nowshed Chy Assistant Professor Computer Science & Engineering, University of Chittagong, Chittagong-4331, Bangladesh Phone: +8801764207358 Email: nowshed@cu.ac.bd

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