

Tashin Hossain

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Research Interests

Natural language processing (NLP), computational social science, information retrieval, opinion mining, and multi-modal information processing.

Education

B.Sc. (Engg.) (2018-2023)

CGPA: 3.82

Ranked 1st in order of merit

Computer Science and Engineering (CSE)

University of Chittagong, Chittagong, Bangladesh.

Job Experience

- Adjunct Lecturer, CSE,
International Islamic University Chittagong (IIUC), Bangladesh. Jan, 2024 ~ Present

Laboratory Affiliations

- At Knowledge Data Engineering and Information Retrieval Laboratory, Toyohashi University of Technology, Japan. Supervisor: Prof. Dr. Masaki Aono
URL: www.kde.cs.tut.ac.jp Duration: May, 2020 ~ Present
- At CSECU Data Science Group (CSECU-DSG) laboratory as an undergraduate research student, University of Chittagong, Bangladesh. Supervisor: Dr. Abu Nowshed Chy
URL: <https://tinyurl.com/nowshedcu> Duration: May, 2020 ~ Present

Research Publications

International Journals:

1. Jannatun Naim, Tashin Hossain, Fareen Tasneem, Abu Nowshed Chy, and Masaki Aono, *Leveraging Fusion of Sequence Tagging Models for Toxic Spans Detection*, Neurocomputing (Elsevier), Vol.-500, pp. 688-702, 21 August, 2022. (*★ The first three authors have equal contributions.*)

Workshop/Technical Papers:

1. **T. Hossain et al.**, *KingsmanTrio at SemEval-2023: Analyzing the Effectiveness of Transfer Learning Models for Explainable Online Sexism Detection*, In SemEval-2023, Canada. (**Rank: 32nd out of 130 teams**)
2. **T. Hossain et al.**, *CSECU-DSG at SemEval-2023: Segmenting Legal Documents into Rhetorical Roles via Fine-tuned Transformer Architecture*, SemEval-2023, Canada. (**Rank: 22nd out of 27 teams**)
3. **T. Hossain et al.**, *CSECU-DSG at SemEval-2021: Orchestrating Multimodal Neural Architectures for Identifying Persuasion Techniques in Texts and Images*, SemEval-2021, Thailand. (**Rank: 6th out of 15 teams**)
4. **T. Hossain et al.**, *CSECU-DSG at SemEval-2021: Leveraging Ensemble of Sequence Tagging Models for Toxic Spans Detection*, SemEval-2021, Thailand. (**Rank: 25th out of 120 teams**)
5. **T. Hossain et al.**, *CSECU-DSG at WNUT-2020: Exploiting ensemble of transfer learning and hand-crafted features for identification of informative COVID-19 English tweets*, W-NUT 2020, Online, 2020. (**Rank: 38th out of 55 teams**)

Undergraduate Thesis

This thesis was completed in the field of Natural Language Processing (NLP) under the supervision of Dr. Abu Nowshed Chy. The thesis is entitled “A Multimodal Neural Feature Fusion Architecture for Memotion Analysis”. I have tried to explore the challenges arising from their informal, humorous, and rapidly evolving nature. The causal nature and comic elements pose difficulties for automated systems in comprehending their intended significance, especially in the presence of ambiguity and context-dependent humor. In light of these formidable challenges, I endeavored to construct an automated system to discern the sentiment and essence of humor encapsulated within a meme. Our approach involved the implementation of a feature fusion-based multimodal architecture, which harmoniously amalgamates the intricate layers of meaning inherent in the visual and textual components of memes.

Awards and Honors

International Accolades:

- **4th Best Scoring Team**, HerWILL Datathon 2022, April 23-25, 2022, Virtual.
- **34th out of 78 teams**, SemEval 2022: Patronizing and Condescending Language Detection at NAACL 2022.

National Accolades:

- **UGC Merit Scholarship** for outstanding results in B.Sc. Examination in Faculty of Engineering, awarded by University Grants Commission (UGC), Bangladesh.

Programming Contest:

- **3rd out of 30**, Grace Hopper Girls' Programming Camp 2019, Chittagong, Bangladesh (BD).
- **21st out of 45 teams**, Inter-University Programming Contest 2020, East Delta University, BD.
- **25th out of 71 teams**, Inter-University Girls' Programming Contest 2019, North South University, BD.
- **43rd out of 76 teams**, National Girls' Programming Contest 2019, Daffodil International University, BD.
- **82nd out of 108 teams**, National Girls' Programming Contest 2018, Daffodil International University, BD.

Professional Training and Activities

- Reviewer at the International Workshop on Semantic Evaluation (SemEval-2021 ~ Present).
- ACL Year-Round Mentorship Program (Virtual) at ACL. September 9, 2021 ~ Present
- WiNLP Mentorship Program (Virtual) at EMNLP 2021. November, 2021

Academic Project Experience

- Anticipating Ailments Based on Symptoms: A Rule-Based System
Description: I've developed a rule-based expert system trained to recognize 20 distinct diseases with 64 distinct symptoms. It can make predictions based on its extensive knowledge of specific diseases.
Technology Used: Prolog, Kaggle.
- Undergraduate Student Helping Website
Description: This is a web application that provides undergraduate students with a forum for undergraduate-related questions. In addition to a chatbot, this website provides a notification system for tracking various contests, scholarships, seminars, and conferences.
Technology Used: Django, Python, Html, CSS, PostgreSQL.
- Medical Information System
Description: The software runs on Android and has a three-tiered structure. It features an appointment scheduler, a report display, and a symptom checker.
Technology Used: Android Studio, Python, Firebase, TensorFlow, Canva.
- Robo-Biz
Description: The Android app is a 3-tier architecture-based platform developed in Java using Android Studio, featuring tutorials, a marketplace for buying and selling robot parts, and a newsfeed for sharing informative robotics news.
Technology Used: Android Studio, Python, Firebase, TensorFlow, Canva.

Technical Skills

Programming Languages:	Python, C, C++, JAVA, PHP, R.
Machine Learning Libraries:	Numpy, Pandas, NLTK, SciKit-Learn, spaCy, Hugging Face, Keras, TensorFlow, PyTorch.
Web Designing Tools:	Django, Flask, HTML, XML, JavaScript, CSS, jQuery, UML.
IDE Experiences:	Google Colaboratory, PyCharm, Code Blocks, Android Studio, Visual Studio Code, Notepad++, LaTeX.
DBMS Experiences:	MySQL, PostgreSQL.

Language Proficiencies

Bengali	Vernacular
English	Proficient in all aspects

References

- Available on demand