Syem Aziz

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Syem Aziz | sanz47 | Syem Aziz
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Education

- **Islamic University of Technology (IUT)** *January 2020 - June 2024*
  BSc. in Computer Science and Engineering Dhaka, Bangladesh
  - GPA: 3.74/4.00

Research Experience

- **Speech Emotion Recognition in Bengali Language using Deep Learning**
  ***Status**: Published; **Role**: First author*
  - Proposed a CNN-based architecture for Speech Emotion Recognition (SER) in Bengali, leveraging MFCC features for robust acoustic representation.
  - Employed data augmentation techniques to enhance model generalization across diverse emotional expressions.
  - Achieved 90% and 78% accuracy on the SUBESCO and BanglaSER datasets, respectively, outperforming existing benchmarks.
  - Published in ICCIT 2023.

- **Evaluating the Ethical Reasoning Abilities of Large Language Models**
  ***Status**: Work in Progress; **Role**: Project Lead*
  - Investigated the moral reasoning capabilities of Large Language Models (LLMs) and revealed their susceptibility to prompt injection attacks that can alter ethical stances with success rates ranging from 21% to 97%.
  - Proposed the Immorality Leaning Gap, a novel benchmark to quantify LLMs' bias toward immoral scenarios, independent of actions or outcomes.
  - Demonstrated LLMs failure to engage in genuine moral reasoning, highlighting a critical vulnerability in current AI systems.
  - Under review at EMNLP 2025.

- **VisionTrap: Unanswerable Questions On Visual Data**
  ***Status**: Under review; **Role**: Data Curation*
  - Introduced a curated dataset of unanswerable visual questions paired with synthetic and surreal images, to test VQA models' abstention capabilities.
  - Provided a comparative evaluation of top VLMs, revealing their tendency to hallucinate answers or fail to abstain in uncertain scenarios.
  - Highlighted the necessity for incorporating unanswerability and uncertainty calibration into future VQA benchmarks and training paradigms.
  - Under review at WACV 2026.

Publications

C=Conference

[C.1] Aziz, et al. **Improved Speech Emotion Recognition in Bengali Language using Deep Learning**. In *2023 26th International Conference on Computer and Information Technology (ICCIT)*, IEEE. 2024/02/27, Cox's Bazar, Bangladesh.

Teaching Experience

- **Bangladesh University of Business & Technology [🌐]** *August 2024 - Present*
  Lecturer Dhaka, Bangladesh
  - **Relevant Courses Taught**: Artificial Intelligence, Algorithms, Knowledge Engineering.
  - **STEM Outreach**:
    1. Initiated and outlined the Industrial Training curriculum for the CSE Department at Bangladesh University of Business and Technology (BUBT), aligning academic objectives with industry needs to better prepare students for real-world challenges.
    2. Judged at multiple Data Science competitions.

Additional Experience

- **ShopUp** *June 2024 - August 2024*
  Operations Intern Dhaka, Bangladesh
  - Gained hands-on experience in streamlining processes, optimizing workflows, and supporting the daily financial functions of the operations team. My role involved coordinating tasks, analyzing data using Excel, SQL, PowerBI and Python, and implementing efficiency to enhance overall operational performance.
- **Grameen Communications** *July 2023 - September 2023*
  Machine Learning Intern Dhaka, Bangladesh
  - Developed a conversational AI chatbot for Grameen Communications' official website, designed to handle daily inquiries and frequently asked questions. Developed a model for predicting credit score of the users, gained experience in data analytics using Power BI, Tableau and SQL

Personal Projects

- **Graph Neural Networks (GNN) Educational Framework** *2025*
  Tools: PyTorch, NetworkX, Matplotlib, Scikit-learn [GitHub]
  - Created a comprehensive codebase that allows students to understand GNN concepts from basic graph theory to advanced attention mechanisms through practical implementation and visual learning.
  - **Project Goal**: To teach Graph Neural Networks (GNNs) to students through hands-on implementation and visualization.
- **AI-Powered Medication Side Effect Detection Platform** *2023*
  Tools: TensorFlow, Java [GitHub]
  - Measures cosine similarity between patient reported symptoms and known side effects to determine alignment.
  - **Project Goal**: To understand the technical details of sentence embedding model.

Extra-Curricular Activities

- **AI Community, BUBT** *2025 – Present*
  Advisor
  - Serving as the Advisor of the AI Community at BUBT, where I mentor and encourage students to explore diverse directions in Artificial Intelligence and Machine Learning.
  - Organized and facilitated coding workshops that focus on practical applications, theoretical foundations, and emerging perspectives of AI and ML.
  - Guided student-led initiatives, fostering a collaborative learning environment and helping members prepare for research, competitions, and industry-oriented projects.
- **Tree Plus Plus** *2023*
  Web Developer, Volunteer [GitHub]
  - A digital platform focused on tree plantation and carbon offsetting that connects stakeholders and streamlines tree planting efforts to fight climate change
  - Enables easy and transparent participation in environmental activities for individuals and organizations.
  - Aligned with the UN Sustainable Development Goals (SDGs), especially SDG 13 (Climate Action) and SDG 15 (Life on Land).
- **Notre Dame Writers' Club** *2018*
  President
  - Served as the President of the Notre Dame Writers' Club where my responsibilities included overseeing the publication of the club's magazine, *Chitchat*, on a quarterly schedule. I was also responsible for organizing seminars and workshops, focusing on writing techniques and various thematic topics.

Skills

- **Programming Languages:** Python, C++, Java
- **Research Skills:** Zero-shot Learning, Few-shot Learning, Graph Neural Networks, Vision-Language Models, Natural Language Processing, Speech Processing, Seq2Seq Models.

Honors and Awards

- **ASR for Regional Dialects** *Champion*
  Kaggle
  - Achieved 1st place in a Bengali speech transcription competition using a *Seq2Seq model*, handling diverse regional dialects
  - Secured mean Word Error Rates of 0.64676 (public) and 0.64430 (private).
- **UIU CSE Fest Blockchain Olympiad** *Bronze*
  UIU
  - Proposed a blockchain based AI system for real-time wildlife tracking, threat detection, and anti-trafficking.
  - Aligned with key UN SDGs to ensure sustainability involving governments, NGOs, and communities.