Lubna Zahan Lamia

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Research Assistant, Cognitive Agents and Interaction Lab (CAIL) — University of Dhaka, Bangladesh

Research Profile

My research investigates how **large language models** construct, reshape, and mediate meaning at the intersection of **natural language processing**, **computational linguistics**, and **ethical AI**. I focus on uncovering how bias, perspective, and interpretive reliability manifest in generative text, integrating linguistic theory with computational analysis to examine how modern language technologies transform patterns of meaning and representation across linguistic structure and model behavior.

Research Interests

Natural Language Processing • Computational Linguistics • Deep Learning
Bias and Perspective in NLP • Ethical and Trustworthy AI • Responsible Language Technologies

Education

University of Dhaka — Dhaka, Bangladesh
Bachelor of Science in Computer Science & Engineering — *Jan 2020 – July 2025*
- Cumulative GPA: 3.53 / 4.00

Holy Cross College — Dhaka, Bangladesh
Higher Secondary Certificate (Science) — *June 2017 – June 2019*
- Result: GPA 5.00 / 5.00; awarded Government Scholarship (H.S.C.).

Savar Cantonment Public School and College — Dhaka, Bangladesh
Secondary School Certificate (Science) — *Completed 2017*
- GPA: 5.00 / 5.00; awarded Government Scholarship (S.S.C.).

Research Experience

Research Assistant — Jan 2024 – Present
Cognitive Agents and Interaction Lab (CAIL), University of Dhaka — *Dhaka, Bangladesh*
- Conducting research on bias, framing, and interpretability in large language models, combining linguistic and deep learning perspectives.
- Developed frameworks for analyzing narrative distortion and sentiment-informed modeling across generative systems.
- Contributed to peer-reviewed research works bridging computational linguistics and deep learning.

Publications

Published / Accepted

- **Lamia, L. Z.**, Hossain, M. F. B., & Khan, M. M. (2025). *Who Holds the Pen? Caricature and Perspective in LLM Retellings of History.* ***Conference on Empirical Methods in Natural Language Processing (EMNLP) 2025***, Suzhou, China — **Oral Presentation**, November 5–9, 2025; **SAC Highlight Award Nominee.**

Under Review

- Hossain, M. F. B., **Lamia, L. Z.**, & Khan, M. M. (2025). *FinBERT-BiLSTM: A Deep Learning Model for Predicting Volatile Cryptocurrency Market Prices Using Market Sentiment Dynamics.* Under review at ***Applied Intelligence Journal (Springer)*** — Equal Contribution.

Ongoing & Future Research Projects

Emerging Work on Context-Aware Evaluation in Large Language Models
- Extending prior narrative-level analyses toward more grounded, multimodal, and culturally adaptive evaluation frameworks.

Extension of "Who Holds the Pen? Caricature and Perspective in LLM Retellings of History"
- Expanding the EMNLP 2025 study to cross-domain analyses of interpretive bias and perspective consistency.

Extension of FinBERT-BiLSTM Hybrid Model for Cryptocurrency Forecasting
- Developing a real-time platform for sentiment-driven market forecast visualization and evaluation.

Technical Skills

Python, C++, Java | PyTorch, TensorFlow, Scikit-learn | Hugging Face (FinBERT, Sentence-BERT, RoBERTa-MNLI, LLaMA) | OpenAI GPT series, Claude, Gemini | Bi-LSTM, TCN, TFT, Informer | Git, Google Cloud

Awards & Recognitions

- **Government Scholarships** for academic merit in H.S.C., S.S.C., and J.S.C. examinations.
- **EMNLP 2025 Diversity & Inclusion Grant** recipient (USD 1000).
- **Full registration waiver** (USD 600) for EMNLP 2025 participation, including ACL membership.
- **World Youth Leadership Conference (WYLC) 2025**, Dubai — awarded partial scholarship from Global Entrepreneurship Bootcamp INC.

Co-Curricular & Leadership Activities

- Selected as **Student Volunteer** for the *Conference on Empirical Methods in Natural Language Processing (EMNLP) 2025*, Suzhou, China — In-person.
- **Departmental Coordination — Dept. of CSE, University of Dhaka** Led organization of *Graduation Week 2024*, coordinating multi-day events, scheduling, registration, and volunteer activities.
- **Program Host — University of Dhaka** Served as host for events including the *Graduation Ceremony*, *Freshers' Reception*, and *CAIL LLM Workshop*, supporting program flow and on-site coordination.

Academic References

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