

# Syeda Sabrina Akter

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## Professional Summary

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A diligent Ph.D. researcher specializing in AI/ML, with expertise in NLP, deep learning, and reinforcement learning. Skilled in fine-tuning, benchmarking and making SOTA LLMs capable of handling complex, real-world tasks across specialized domains such as Education and Policy Studies. Published in top conferences (EMNLP, NAACL) and committed to creating impactful, responsible AI applications and fostering collaborative innovation.

## Research Interests

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Large Language Models, Generative AI, Reinforcement Learning, Deep Learning, Text Generation and Analysis, Information Retrieval, Low-Resource and Multilingual NLP, Speech Recognition, Speech Translation.

## Programming Skills

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Python, PyTorch, NumPy, Pandas, TensorFlow, Scikit-Learn, Java, C, C++, PHP, UNIX shell scripting, SQL, Oracle, MySQL, Matlab, Hadoop and others.

## Education

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**George Mason University**, Ph.D. in Computer Science (Expected) Summer 2026

- Advisor: [Antonios Anastasopoulos, Ph.D, Assistant Professor](#)
- Research: *NLP and LLMs Applications in High-Stakes Specialized Domains*

**George Mason University**, M.S. in Computer Science 2024

- Advisor: [Antonios Anastasopoulos, Ph.D, Assistant Professor](#)
- Cumulative GPA: 4.00/4.00

**Bangladesh University of Professionals**, B.Sc. in Computer Science and Engineering 2018

- Bachelor Thesis: *Development of a Machine Learning Framework for Sorting and Classifying Unstructured Data from Resumes*
- Advisor: [Hasan Sarwar, Ph.D](#)
- Cumulative GPA: 3.70/4.00

## Research Experience

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**Graduate Research Assistant**, George Mason University 2021 – Present

- **LLMs in Specialized Domains:**
  - *Education*: Developed data driven system to simplify open ended tasks using SOTA LLMs, i.e., the analysis of school improvement plans, and designed robust solutions that incorporate human-in-the-loop systems.
  - *Policy Analysis*: Utilized LLMs for topic extraction from tech policy documents and interviews, focusing on automating and streamlining a process traditionally requiring manual expert annotation.
- **Multilingual News Framing Analysis:**
  - Enhanced multilingual news framing analysis using fine-tuned language models for diverse user groups and language-specific datasets.
  - Explored efficiency gains for domain adaptation and cross lingual transfer learning. Collected Synthetic data through crowdsourcing; established high-quality datasets in Bengali and Portuguese.
- **Predicting Performance of Multilingual LLMs Across Multiple Languages**
  - Developed a performance prediction system for multilingual NLP models based on the LITMUS model, enhanced with three new features and model ensembling. Achieved improvements over the baseline.
  - [SUMEval 2022 Shared Task](#).

## Publications

1. [The LLM Effect: Are Humans Truly Using LLMs, or Are They Being Influenced By Them Instead?](#) EMNLP 2024  
Alex Choi\*, **Syeda Sabrina Akter\***, JP Singh, Antonios Anastasopoulos.  
Proceedings of the 2024 Conference on Empirical Methods in Natural Language Processing.
2. [A Study on Scaling Up Multilingual News Framing Analysis](#) NAACL 2024  
**Syeda Sabrina Akter** and Antonios Anastasopoulos.  
Findings of the Association for Computational Linguistics: NAACL 2024, pages 4156–4173, Mexico City, Mexico.  
Association for Computational Linguistics.
3. [Principal-Supervisor and Machine Generated Evaluation Scores of Principal Performance Portfolios in a Rurally-Focused Multi State Evaluation System: Their Reliability, Validity, Differences, and Determinants](#) AEFP 2024  
Seth B Hunter, David S Woo, Antonios Anastasopoulos, Katherine M Bowser, **Syeda S Akter**, Sarah L Hairston, Thomas W Hairston, and Eter Mjavanadze.  
49th Annual Conference of Association for Education Finance and Policy. March 14-16, 2024. Baltimore, Maryland.
4. [The GMU System Submission for the SUMEval 2022 Shared Task](#) ACL 2022  
**Syeda Sabrina Akter** and Antonios Anastasopoulos.  
Proceedings of the First Workshop on Scaling Up Multilingual Evaluation, pages 13–20, Online. Association for Computational Linguistics.
5. [A systematic review on the use of AI and ML for fighting the COVID-19 pandemic](#) IEEE Access 2021  
Islam, Muhammad Nazrul, Toki Tahmid Inan, Suzzana Rafi, **Syeda Sabrina Akter**, Iqbal H. Sarker, and AKM Najmul Islam.  
IEEE Transactions on Artificial Intelligence 1, no. 3 (2020): 258-270.
6. [An IoT based proposed system for monitoring manhole in context of Bangladesh](#) iCEEiCT 2018  
Saadnoor Salehin, **Syeda Sabrina Akter**, Anika Ibnat, Tasmiah Tamzid Anannya, Nurun Nahar Liya, Manisha Paramita, and Md Mahboob Karim.  
In 2018 4th International Conference on Electrical Engineering and Information & Communication Technology (iCEEiCT), pp. 411-415. IEEE, 2018.

## Teaching Experience

- Graduate Teaching Assistant**, Department of CS, GMU 2021 - 2024
- **Courses:** Advanced Natural Language Processing, Software Testing, Data Structures, Object Oriented Programming, Database Concepts.

## Awards

- **Distinguished Academic Achievement Award**, 2023-2024, Department of Computer Science, GMU
- **Outstanding Graduate Teaching Assistant Award**, 2022-2023, Department of Computer Science, GMU
- **Best Project Award**, Faculty of Electrical and Computer Engineering (2017, MIST)
- **Commandant's List Award** for Academic Excellence (2016, MIST)
- **IUT ICT Fest Project Showcasing – Runners Up** (2017, Islamic University of Technology)

## Service

- Reviewer for Association for Computational Linguistics
- Volunteer for 2022 Annual Conference of the North American Chapter of the Association for Computational Linguistics
- Teaching Assistant to a guest Lecture in Georgetown University, 2023
- Teaching Assistant for Summer Guild Breakthrough tech 2021, 2022