Sudipta Mondal

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LinkedIn GitHub Google Scholar Portfolio Webpage

Summary

Ph.D. student in Computer Science at the University of Maryland, Baltimore County, specializing in HCI and NLP. Passionate about advancing AI through interdisciplinary research, with the goal of driving impactful innovation in intelligent systems and pursuing a career in academia or industry research to mentor and inspire the next generation of scholars.

Academic Preparation

University of Maryland, Baltimore County **Fall 2025 – Present**
Doctor of Philosophy (Ph.D.), Computer Science
Research Focus : HCI, NLP *USA*
Supervisor: Dr. Sanorita Dey

Brac University **2016 – 2021**
Bachelor of Science in Computer Science and Engineering
CGPA: 3.49/4.00 *(last 60 credits: 3.61)* *Bangladesh*

Experience

Graduate Teaching Assistant **Aug 2025 – Present**
Department of Computer Science and Electrical Engineering, UMBC

Course: CMSC331 - Principles of Programming Languages
Responsibilities:

* Grading assignments, homework, and tests
* Holding office hours for student consultation
* Proctoring exams

Research Interest

Human Computer Interaction, Natural Language Processing, Trustworthy AI, Self-Supervised Learning

Publications

* Anan, R., Apon, T. S., Hossain, Z. T., Modhu, E. A., **Mondal, S.**, & Alam, M. G. R. (2023, March). *Interpretable Bangla Sarcasm Detection Using BERT and Explainable AI.* In *2023 IEEE 13th Annual Computing and Communication Workshop and Conference (CCWC)* (pp. 1272–1278). IEEE.
  DOI: 10.1109/CCWC57344.2023.10099331
* Islam, A., Rahman, S. A. S., Bhowmick, P., Rafi, I. A., **Mondal, S.**, & Alam, G. R. (2025, January). *A Smart Tutor Avatar for Mimicking Characters of Bangla Sign Language.* In *2025 4th International Conference on Robotics, Electrical and Signal Processing Techniques (ICREST)* (pp. 183–188). IEEE.
  DOI: 10.1109/ICREST63960.2025.10914355
* Dohan, D. M., Prottush, N., **Mondal, S.**, Choya, S. B. Z., & Alam, M. G. R. (2025, April). *Customer Personality Analysis Using Machine Learning with Explainable AI.* In *2025 13th International Symposium on Digital Forensics and Security (ISDFS)* (pp. 1–6). IEEE.
  DOI: 10.1109/ISDFS65363.2025.11012007

Academic Projects

Analyzing Student Academic Advising Queries using Data Science Methods

* Analyzing advising queries to uncover patterns and information gaps, eventually aiming to design an AI-assisted tool that helps faculty advisors efficiently deliver accurate, policy-aligned responses to student questions.

Projects

[In Preparation] A Systematic Review on the Use of AI and ML for Sentiment Analysis

- Conducted a systematic review comparing AI and machine learning approaches for sentiment analysis, highlighting key insights, research directions, and limitations for future studies.

[Group] Classify Interpretable Twitter Hate Speech using LIME | *CSE711: Symbolic Machine Learning-I*

- [Project Link]: Conducted a comparative performance analysis of multiple machine learning models and incorporated explainability techniques using LIME for better interpretability.

[Individual] Deep Learning Based Online Sexism Detection | *CSE712: Symbolic Machine Learning-II*

- [Project Link]: Developed a neural network using Word2Vec embeddings to detect and categorize sexist language, achieving F1 scores of 0.77 for detection and 0.43 for categorization.

[Group] Social Media Rumor Detection using Machine Learning | *CSE718: Petri Net Theory and Modeling of Systems*

- [Project Link]: Built a machine learning system to detect social media rumors by applying two feature extraction methods for data vectorization, training multiple classification models, and identifying SVM as the top-performing model.

Technical Skills

Language: Python, Java
Developer Tools: PyCharm, Jupyter Notebook, Google Colab, VS Code
Operating Systems: Linux, Windows
Machine Learning Frameworks: Tensorflow, Scikit-learn, Keras, PyTorch
Others: Git, SQL, Latex

Certificates & Awards

VC's List, Dean's List and Merit Scholarship Award, Brac University

- Earned a position on the **VC's List** for the Spring 2020 semester with a 4.00 GPA
- Earned a place on the **Dean's List** for two semesters with a 3.80 and 3.87 GPA
- **Merit Scholarship Based on BracU Academic Results** for the Master's Degree (M.Sc.) in Spring & Summer 2024

Online Course Certificates

Data Analyst with Python | *DataCamp*
Course duration: 36 hours **Aug 2024**

Crash Course on Python | *Coursera*
Course duration: 20 hours **Mar 2023**