ADITI SAHA

CONTACT INFORMATION

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RESEARCH INTERESTS

Large Lagnuage Models, Data Science, Machine Learning, Quantum Computing, Time Series Forecasting

EDUCATION

Tuskegee University, Tuskegee, AL, USA [Expected August 2025]
M.Sc. in Information System and Computer Security, (Track - Data Science), CGPA 4.00/4.00
Computer Science Department, Tuskegee University, Tuskegee, AL 36088

American international University-Bangladesh (AIUB), Dhaka, Bangladesh [2017- 2021]
B.Sc. in Computer Science and Engineering, Magna Cum Laude CGPA 3.90/4.00

Pabna Government Women's College, Pabna, Bangladesh. [2015]
Higher Secondary Certificate (HSC) GPA: 5.00/5.00

THESIS

M.Sc. Thesis : Groundwater Level Prediction: Analyzing the Performance of LSTM and QLSTM Models [Proposed]
• Working on Integrated Groundwater Management, to develop Quantum Long short term Memory (QLSTM) and Long short term Memory (LSTM) based model for groundwater level forecasting

B.Sc. Thesis : Bengali Article Recommendation System based on Topic Similarity Using Latent Dirichlet Allocation. [Completed]
• Developed an LDA-based prediction and recommendation model for the Bengali language to enhance NLP applications for the Bengali-speaking community

PUBLICATION

- **Saha, Aditi**, Mohammad Rahman, and Fan Wu. "Evaluating LSTM Time Series Prediction Performance on Benchmark CPUs and GPUs in Cloud Environments." In *Proceedings of the 2024 ACM Southeast Conference*, pp. 321-322. 2024.
- **Saha, Aditi**, Taieba Tasnim, Mohammad Rahman, and Fan Wu. "Groundwater Level Prediction: Analyzing the Performance of LSTM and QLSTM Model" Accepted in *2024 IEEE International Conference on Big Data workshop BPOD 2024* in Washington, D.C.
- **Saha, Aditi**, Mohammad Rahman, and Fan Wu. "Comparative LSTM and QLSTM Time Series Prediction Performance on Benchmark CPUs and GPUs on Cloud Environments Leveraging Groundwater Datasets" Accepted in *American Geophysical Union Conference 2024* in Washington, D.C.
- **Saha, Aditi**, Mohammad Rahman, and Fan Wu. "Evaluating LSTM Time Series Prediction Performance on Benchmark CPUs and GPUs on High Performance Computer Leveraging Groundwater Datasets" Accepted in *American Geophysical Union Conference 2024* in Washington, D.C.
- Taieba Tasnim, **Saha, Aditi**, Mohammad Rahman, and Fan Wu. "Comparison of CNN and QCNN Performance in Binary Classification of Breast Cancer Histopathological Images" Accepted in *2024 IEEE International Conference on Big Data workshop BPOD 2024* in Washington, D.C.
- Taieba Tasnim, **Saha, Aditi**, Mohammad Rahman, and Fan Wu. "Quantum Vs Classical: Performance Benchmarking of CNN and QCNN in Binary Image Classification" Accepted in *2025 IEEE 15th Annual Computing and Communication Workshop and Conference (CCWC)* in University of Nevada, Las Vegas.

Presentations

- 62^{nd}ACM Southeast Conference (ACMSE) 2024 conference in Marietta, Georgia — April, 2024
- Integrated Groundwater Management (IGM) 2024 workshop, Tuscaloosa, AL — June 2024
- Alabama Higher Education AI exchange conference, Auburn, AL — October 2024
- American Geophysical Union Annual Meeting, Washington, D.C. — December 2024
- IEEE International Conference on Big Data, Washington, D.C. — December 2024

Courses completed

- Data Networks & Cloud Computing
- Database Systems
- Information Security
- Network Security Management
- Data Analytics
- Big Data Analytics
- Data Mining & Machine Learning
- Statistics With R

Skills

- **Platform**: Unix, Windows
- **Programming Language**: Bash, C, C++, C#, Java, Assembly language, Python, MATLAB
- **Visualization and Data Analysis Tool**: Tableau, Hadoop, Hive, Python, Office Excel
- **Database**: SQL (MySQL), Oracle
- **Networking**: Cisco Networking
- **Drawing and Design Tool**: Proteus, NI Multisim, AutoCAD
- **Machine Learning:** Weka
- **Documentation and Presentation Tool**: LaTeX, Microsoft Office Suite

honors and Awards

- Graduate Teaching and Research Assistant, Tuskegee University [Fall 2023 - present]
- Magna Cum Laude (Silver Medal) for academic excellence at AIUB.
- Dean's List Award, AIUB. [Spring 18-19, Fall 18-19]
- Tuition Waiver in AIUB (For Outstanding Results) [2017-2021]
- Government Merit Scholarship in Secondary School Certificate Examination [2013-2015]
- Government Merit Scholarship in Junior Scholarship Examination [2010-2012]

Membership

- Member of Association for Computing Machinery
- Member of American Geophysical Union
- Member of Engineering Students' Association of Bangladesh (ESAB).
- Member of IEEE Bangladesh Section.

Work Experience

- Graduate Teaching and Research Assistant [Fall 2023 - present]
  Department of Computer Science, Tuskegee University, Tuskegee, AL 36088
- Teaching Assistant [Fall 2020-2021]
  Department of Computer Science and Engineering, AIUB, Dhaka, Bangladesh.

References

- **Mohammand Rahman, Ph.D.** [Advisor]
  Assistant Professor, Department of Computer Science,
  Tuskegee University
- **Wu Fan, Ph.D.**
  Head & Professor, Department of Computer Science,
  Tuskegee University
- **Paramjit S. Kahai, Ph.D.**
  Associate Professor, Department of Computer Science,
  Tuskegee University