

Raied Ahmed Nishat

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Professional Profile

Passionate civil engineer with a focused research background in geotechnical engineering, machine learning applications, and climate-resilient design. Experienced in computational modeling, soil stabilization, and GIS-based seismic risk analysis; with multiple publications and ongoing projects. Proficient in Python, ArcGIS, AutoCAD, and structural analysis tools, with demonstrated leadership roles in student organizations, event coordination, and effective communication skills. Motivated, detail-oriented, and committed to advancing sustainable infrastructure through innovation and interdisciplinary research.

Education

B.Sc. in Civil and Environmental Engineering

2020-Present

Shahjalal University of Science and Technology, Sylhet 3114, Bangladesh

- CGPA: 3.62/4.00 (as of 7th semester)

Research & Publications

Journal Articles

1. **Nishat R.A.** & Joy M.R. (2025). Investigating the Trends of Rainfall and Discharge along the Brahmaputra-Jamuna River System. *Technical Journal of River Research Institute*, 17(1).
2. **Nishat R.A.** & Rahman F. Machine Learning in Soil Strength Prediction: A Review. Submitted to *Discover Civil Engineering (Springer)*. **(Under Review)**
3. Joy M.R. & **Nishat R.A.** Hydroclimatic Trend Analysis and Machine Learning-Based Water Level Prediction for the Ganges (Padma) River Basin. Submitted to *Hydrology and Earth System Sciences (HESS)*. **(Submitted)**

Conference Papers

1. **Nishat R.A.**, Rahman F., Hoque N.M.R., Rafi M.N.I., & Islam S. (2025). Prediction of Soil Unconfined Compressive Strength with Decision Tree-Based Hybrid Machine Learning Model. Submitted to *ICCEI 2025 (RUET)*. **(Conference Paper - Submitted)**

Research Projects

1. **Seismic Risk and Resilience Analysis of Chittagong** (*Manuscript in preparation*)
Working with Ram Krishna Mazumder and Abul Hasnat to analyze structural and spatial vulnerability using GIS tools. Contributing to data visualization, interpretation, and manuscript development. Final write-up in progress.
2. **Mechanical Behavior of Lime and Fly Ash Stabilized Embankment Soil Reinforced with Polyester Fiber** (*Ongoing*)
Conducting experimental research under Dr. Shriful Islam to evaluate the combined effect of admixtures. Leading data analysis and drafting research manuscript for journal submission.
3. **Stabilization of Kaolin Clay with Lime and Activated LRF Slag** (*Ongoing*)
Engaged in planning, result interpretation and manuscript preparation under Dr. Shriful Islam.

Undergraduate Thesis

- **A Transfer Learning Approach for Soil Strength Prediction**

Raied Ahmed Nishat, Fahmida Rahman

Supervisors: Dr. Shriful Islam (Primary), Nur Md. Robiul Hoque (Co-supervisor)

This is the **first reported implementation** of transfer learning for predicting soil strength. The work includes domain adaptation techniques applied to geographically diverse soil datasets. Currently in final phase of experimentation, analysis, and manuscript drafting.

Research Experience

Undergraduate Research Assistant

2023-Present

Supervisor: Dr. Shriful Islam, Professor, CEE SUST

- Conducted geotechnical lab experiments for research projects.
- Worked on soil testing, data analysis, and modeling for geotechnical studies.
- Gained expertise in research paper writing and machine learning applications in soil mechanics.

Technical Skills

Civil Engineering & Data Analysis

- GIS & Remote Sensing (ArcGIS Pro, QGIS)
- Structural & Geotechnical Analysis (ETABS, AutoCAD)

Software & Programming

- Python (Scikit-Learn, Pandas, Matplotlib)
- MS Office (Word, Excel, PowerPoint)

Design & Media

- Graphic Design (Photoshop, Illustrator)
- Video Editing (Adobe Premiere Pro)
- Photography & Videography

Professional Experience

General Secretary | Aaj Muktomancho

Oct 2024 – May 2025

- Lead the 15th Executive Committee, overseeing cultural, literary, and intellectual initiatives.
- Managed team coordination, strategic planning, and administrative responsibilities to ensure sustainable organizational growth.
- Oversaw event planning, public engagement, and partnerships to expand Aaj Muktomancho's reach and impact.

Assistant General Secretary | Aaj Muktomancho

Jun 2023 – Nov 2024

- Assisted in managing and executing major organizational projects, including event coordination and fundraising efforts.
- Oversaw photography, project documentation, and branding strategies for Aaj Muktomancho's key initiatives.

Executive Member | Aaj Muktomancho

Oct 2021 – Jun 2023

- Played a pivotal role in organizational decision-making and event planning.
- Led graphic design and promotional campaigns for various events, ensuring high-quality visual representation.

Organizing Secretary | Association of Civil and Environmental Engineering, SUST

2024 - Present

- Overseeing the planning and execution of department-wide events.
- Managing student engagement initiatives, ensuring smooth coordination between faculty, students, and industry professionals.

Graphics & Promotion Team Member, CEE Silver Jubilee 2023

February 2023 – Mar 2023

- Designed posters, banners, souvenirs, and promotional materials for the Silver Jubilee and Exceed 2023 events.
- Contributed to event branding and marketing, ensuring a cohesive and professional visual identity.
- Assisted in publicity and outreach campaigns, promoting the event across digital and print platforms.
- Collaborated with a team to execute high-quality designs and ensure effective promotion strategies.

Photographer (Freelance) | Sylhet, Bangladesh

Mar 2022 – Present

- Provided professional photography services for events, publications, and creative projects.
- Specialized in event coverage, product photography, and promotional content creation.
- Worked with clients to develop high-quality visual narratives tailored to their brand or event needs.

Honors and Achievements

- Semifinalist, Hult Prize at SUST, 2023
- Convenor, Rondhre Onunaad 2024, A concert at SUST

Certificates and Training

- **Introduction to GIS Mapping | Coursera**
University of Toronto
Grade Achieved: 95.53%