

Raied Ahmed Nishat

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EDUCATION

BSc (Engg.) in Civil and Environmental Engineering

Jan 2020 - Sept 2025

Shahjalal University of Science and Technology, Sylhet 3114, Bangladesh

- CGPA: 3.64/4.00, Top 5 in class

Relevant Modules:

Disaster Management and Earthquake Engineering; Geotechnical Engineering I-III; Mechanics of Solids I and II; Structural Analysis I-III; Statistics for Engineers; Differential Calculus and Vector Analysis; Numerical Analysis.

RESEARCH EXPERIENCE

Research Assistant

Apr 2024 - Present

Geotechnical Engineering Research Group, Department of Civil and Environmental Engineering, SUST

Supervisor: Prof. Dr. Shriful Islam

- Engaged in both laboratory-based and computational research on geotechnical materials and soil behavior.
- Exploring both traditional geotechnical testing as well as machine learning applications for geotechnical modeling.
- Assisting in experimental setup, data analysis, and research article preparation for ongoing projects.

Undergraduate Thesis

- A Transfer Learning Approach for Soil Strength Prediction

Supervisor: Prof. Dr. Shriful Islam

- First implementation of transfer learning for soil undrained shear strength prediction addressing domain shift between Finnish and Sylhet soil datasets, enhancing cross-region model generalization by using instance-based transfer learning algorithms.

Projects

1. Seismic Risk and Resilience Analysis of Chittagong (*Manuscript in preparation*)

- Working with *Ram Krishna Mazumder, Assistant Professor, Georgia Southern University* and *Abul Hasnat, PhD Candidate, Texas A&M University*, to perform geospatial and structural vulnerability assessment of Chittagong's built environment using multi-hazard modelling, seismic fragility curves and resilience metrics.

2. Strength and Mechanical Behavior of Lime and Fly Ash Stabilized Embankment Soil Reinforced with Polyester Fiber (*Ongoing*)

- Leading experimental research under Dr. Shriful Islam to quantify the synergistic effect of lime-fly ash admixtures and fiber reinforcement on embankment soil strength, stiffness, durability and in-situ applicability.

PUBLICATIONS

Journal Articles

- Islam S., Nishat R.A., Sutradhar A., Hoque N.M.R. & Rafi M.N.I., Rana S. (2025). Effect of lime and alkali-activated LRF slag on geotechnical properties and microstructural behavior of kaolin clay, *Geotechnical and Geological Engineering (Springer)*. (**Under Review**)
- Nishat R.A., Rahman F., Islam S. & Hoque, R. Instance-Based Transfer Learning for Cross-Regional Prediction of Undrained Shear Strength of Soils, *Geosystems and Geoenvironment (Elsevier)*. (**Under Review**)
- Joy M.R. & Nishat R.A. Hydroclimatic Trend Analysis and Machine Learning-Based Water Level Prediction for the Ganges (Padma) River Basin. *River (Wiley)*. (**Submitted**)
- Nishat R.A. & Rahman F. Machine Learning in Soil Strength Prediction: A Review. *Discover Civil Engineering (Springer)*. (**Submitted**)
- 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).

Conference Proceedings

- Nishat R.A., Tusu A.N., Islam S., Monni M.A. (2026). A Probabilistic Transformer-Based Machine Learning Model for Shallow Foundation Settlement Prediction. *8th International Conference on Civil Engineering for Sustainable Development 2026 (KUET)*.

PROFESSIONAL EXPERIENCE

Adjunct Lecturer

Leading University, Sylhet 3112, Bangladesh

Jan 2026 - Present

- Designing and delivering undergraduate lectures in civil engineering courses.
- Developing course materials, problem sets, and assessment aligned with outcome-based education (OBE) standards.
- Mentoring students in technical projects and research-oriented thinking.

Junior Project Engineer

Dec 2025 - Jan 2026

Center for Research Testing and Consultancy (CRTC), SUST, Sylhet 3114

- Supervised on-site SPT at two Sylhet Gas Field sites, ensuring procedural compliance and data quality.
- Performed laboratory soil classification and strength tests for geotechnical evaluation.
- Assisted in preparing technical reports for projects.

TECHNICAL SKILLS

Engineering & Data Analysis

- EPANET, SWMM, ArcGIS, QGIS, AutoCAD, Revit, ETABS.

Programming

- Python, C Programming, Javascript, CSS, Latex.

EXTRA-CURRICULAR ACTIVITY

General Secretary | Aaj Muktomano

2024 – 2025

- Lead the 15th Executive Committee, overseeing cultural, literary, and intellectual initiatives.
- Served as convenor for the ‘Rondhre Onunaad 2024’ concert (1,000+ attendees), managing partnerships and public engagement.

Organizing Secretary | Association of Civil and Environmental Engineering, SUST

2024 – 2025

- Coordinated department-wide seminars, receptions, and large-scale events (1,000+ attendees).
- Facilitated collaboration among faculty, students, and industry stakeholders.

HONORS AND ACHIEVEMENTS

- Semifinalist, Hult Prize at SUST, 2023
- Chandpur District Parishad Higher Secondary Merit Scholarship
- Merit Scholarship, Secondary School Certificate
- Chandpur District Parishad Secondary School Merit Scholarship
- Ashutosh Education Scholarship, Brahmanbaria

CERTIFICATES AND TRAINING

- **A complete guide to the key components of a research article**
Wiley Researcher Academy
Credential ID: cert_2nh3qw14
- **Introduction to GIS Mapping | Coursera**
University of Toronto
Credential ID: ZLMCG05UAA19

REFERENCES

- **Dr. Shriful Islam**
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- **Dr. Ram Krishna Mazumder**
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