

Sharhad Shawan Wainty

PhD candidate, EIT

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OBJECTIVE

Geological Engineer with 3 years of experience in hydrology of cold regions with 1+ year's professional experience in optimizing soil stabilization techniques, and enhancing project efficiency.

EDUCATION

Doctorate in Geological Engineering May 2027

University of North Dakota, USA

Minor in Statistics | Certificate program in Geographic Information System

Research Focus: Cold Region Hydrological Modeling and Climate Impacts

Coursework: Hydrogeology, Groundwater Monitoring and Remediation, Surface Hydrology,

Selected topics in GIS (Python), Statistical theory, Atmospheric Data Analysis

Masters in Geological Engineering May, 2026

University of North Dakota, USA

Project: Cold region hydrologic changes to a wet climatic regime in the Northern Great Plain

Bachelor of Science in Civil Engineering April 2019

Bangladesh University of Engineering and Technology, Dhaka, Bangladesh

Major: Geotechnical Engineering | Minor: Water Resource Engineering

Coursework: Soil Dynamics, Earth Retaining Structures, Numerical methods, Analytical

Mechanics, River Engineering, Hydraulic Structures, Hydrology, Irrigation and Flood

Management

JOB EXPERIENCE

Graduate Research Assistant Aug 2022-Present

Center for Water Research, University of North Dakota, USA

Hydrological modelling, remote sensing, conduct field work, analyzing complex datasets, mentoring new research group students, and contributing to academic publications.

Graduate Teaching Assistant Aug 2025-Dec 2025

University of North Dakota, USA

Evaluate students' overall performance. Maintain student progress and provide appropriate feedback on work.

Geotechnical Engineer May 2021-Aug 2022

ProSoil Foundation and Consultant, Dhaka, Bangladesh

Optimized soil stabilization and pile driving techniques, DLTWAVE, TNOWAVE Analysis, improving project efficiency and reducing construction costs for clients

KEY SKILLS

Hydrological Modeling: CRHM, HEC-HMS, Remote Sensing (Google Earth, ArcGIS, ArcPy)

Data Analysis: Python (NumPy, Pandas, Scikit-learn, Matplotlib, Object Oriented Programming), C++, MATLAB, Minitab, Datalogger Programming, Statistical Analysis

Stability analysis: ETABS, SAP, PLAXIS, AutoCAD

Others: Microsoft PowerPoint, Excel, Word, Developing Research Methodology, Cost Estimation, Field Work and Data Collection

Language: English, Bengali, French (Beginner-DELF A2)

PUBLICATION & PRESENTATION

- Cold region hydrologic changes to a wet climatic regime in the Northern Great Plain, Journal of Hydrology, Volume 663, Part B, 2025. (1st author) ([link](#))
- Relationships between surface water area and hydrologic fluxes in a cold region terminal lake basin, Journal of Hydrology: Regional Studies, Volume 62, 2025. (Co-author) ([link](#))
- Climate-Driven Variability in Water Fluxes and Dynamic Contributing Area in the Northern Great Plain (1st author) (Reject and resubmitted on Journal of Hydrology)
- Factors Impacting the Spatial Variation of Snow Accumulation in a Cold-Region Agricultural Basin (2nd author) (Currently under review on Science of Total Environment)
- Poster Presentation: Cold region hydrologic changes to a wet climatic regime in the Northern Great Plain, AGU Fall Meeting 2025.
- Poster Presentation: Impacts of Climate Variability and Tillage Practices on Snow Observations and Hydrologic Responses in a Cold Region Agricultural Basin, AGU Fall Meeting 2025.
- Poster Presentation: Hydrologic Changes to Recent Wetting in a Cold Region Agricultural Watershed, AGU Fall Meeting 2024. ([link](#))
- Poster Presentation: Cold Region Hydrological Outreach Program with Tribal Youth, GSA Connects 2024.
- Poster Presentation: Cold Region Plains Hydrology to Climatic Wetting under a Sequence of Cooling and Warming Conditions, AGU Fall Meeting 2023. ([link](#))
- Undergraduate Thesis: A Simplified Parametric Analysis of Laterally Loaded Single Piles in Homogeneous Soil (unpublished) ([link](#)).

LEADERSHIP & AWARDS

- Gordon W. Gulmon Memorial Scholarship (2025)
- Terrance Anstett Memorial Geology Scholarship (2024)
- Treasurer at Bangladesh Student Association, UND (2023-2024)
- Team leader at HULT Prize competition (2017)
- Leadership experience as the College Prefect in high school (Mymensingh Girls' Cadet College)-2012

ACTIVITIES

- Case Study Competitions: National Enviro+ Challenge (1st Runner-up, 2017), Hydro War (2018)
- Extracurriculars: Extempore Speech, Debate, International Math Competition at Bali, Indonesia (2011)

CERTIFICATION & COURSES

- Engineer in Training, North Dakota- Aug 2026
- Mentors Helping Mentors Workshop- Jan 2025
- Machine Learning A-Z: AI, Python, R+ ChatGPT Prize (Udemy) – Dec 2024
- Intro to Linux Shell Scripting (Udemy) – Oct 2024 – Dec 2024

ORGANIZATION INVOLVEMENT

Member, American Geophysics Union	Jan 2023-Present
Member, Association of Women in Geophysics	Jan 2025-Present
Member, Association of UND Geologists, UND	Aug 2022-Present