Hasan Ahmed

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EXPERIENCE

Graduate Assistant – University of Maryland, Baltimore County (UMBC)   Aug 2021 – Present

Teaching Assistant – UMBC, Dept. of Geography and Environmental Systems

- Instructed courses in Geographic Information Systems (GES 286, GES 386), Remote Sensing (GES 381), and Statistics (GES 400/774).
- Facilitated interdisciplinary studies on water and environmental science lab techniques (GES 220, SCI 100).

Research Assistant – UMBC, Dept. of Geography and Environmental Systems

- Contributed to NASA JPL project: Mapping Tropical Forest Degradation in the Peruvian Amazon Using Synthetic Aperture Radar and Optical Observations.
- Worked on NASA LCLUC project: Making the Hidden Visible: Accelerated Land-Use Change and Degradation Caused by Narco-Trafficking In and Around Central America's Protected Areas.

Research Assistant – UMBC, Dept. of Emergency and Disaster Health Systems

- Conducted spatial analysis and created maps and 3-D models for disaster and environmental health-related studies.
- Contributed to research proposals and created hazard monitoring scripts using Python and Google Earth Engine.
- Compiled, cleaned, and analyzed data; created visual representations suitable for publications.

Research Assistant – University of Lisbon (Ulisboa)   Jan 2018 – Dec 2018

Centre for Ecology, Environment, and Evolution

- Analyzed remote sensing data for mangrove/coastal land-cover change detection.
- Drafted manuscript for publication.

Instructor – Forestry Science and Technology Institute, Sylhet   Aug 2017 – Jan 2018

Ministry of Environment, Forest and Climate Change, Bangladesh

- Taught Forest Silviculture and Forest Inventory courses.

TECHNICAL SKILLS

GIS and Remote Sensing Skills:	**RS/GIS Software Skills:**	**Programming Languages:**
→ Satellite/Digital Image Analysis	→ ESRI ArcGIS (Pro, Online)	→ Python
→ Spatial Statistical Analysis	→ QGIS	→ R
→ Synthetic Aperture RADAR (SAR)	→ ERDAS IMAGINE	→ Google Earth Engine (JS)
→ LiDAR Remote Sensing	→ ENVI	→ Visual Basic
→ Machine/Deep Learning	→ eCognition	
→ Geodatabase Management	→ Pix4D	
→ Geoportal Management	→ Agisoft Metashape	

EDUCATION

Ph.D. in Geography and Environmental Systems   2021 – Present
University of Maryland, Baltimore County, MD, USA
CGPA 3.91/4.0 (Current)
Research Interests: Remote Sensing and Geospatial Information Systems, Land-Use Land-Cover Change, and Forest Carbon Dynamics.

M.S. in Geo-information Science and Earth Observation   2019 – 2021
University of Twente. (Faculty ITC), Enschede, The Netherlands
CGPA 8.36/10 (U.S. equivalent of 4.0/4.0)
Specialization in Natural Resources Management
Scholarships: ITC Excellence Scholarship, The Holland Scholarship

M.S. in Forestry   2016 – 2018
Shahjalal University of Science and Technology, Sylhet, Bangladesh
CGPA 3.9/4.0 With Distinction

B.S. (Honours) in Forestry   2011 – 2016
Shahjalal University of Science and Technology, Sylhet, Bangladesh
CGPA 3.52/4.0

RESEARCH PUBLICATIONS

1. **Ahmed, Hasan,** Naiara Pinto, and Matthew E Fagan. "Evaluating the Sensitivity of Spectral and Synthetic Aperture Radar-based Forest Degradation Products in the Peruvian Amazon Forest." In AGU Fall Meeting 2022, Biogeosciences, 2022. DOI: 10.1002/essoar.10512892.3

2. **Ahmed, Hasan**. "A comparison between UAV-RGB and ALOS-2 PALSAR-2 images for the assessment of aboveground biomass in a temperate forest." Master's thesis, University of Twente, 2021.

3. Rahman, Mohammad Rejaur, Emran Hossain Sajib, Ishtiak Malique Chowdhury, Anik Banik, Rahul Bhattacharya, and **Hasan Ahmed**. "Present scenario of COVID-19 in Bangladesh and government preparedness for facing challenges." J Adv Biotechnol Exp Ther 4, no. 2 (2021): 187-199.

4. Roy, Bishwajit, **Hasan Ahmed**, and Gil Pessanha Penha-Lopes. "Morphological change detection caused by seasonal monsoon and cyclones in the coast over time: a case study on Bangladesh delta." In EGU General Assembly Conference Abstracts, p. 1469. 2019.

5. **Ahmed, Hasan**. "Assessing spatio-temporal changes in forest structural attributes at Lawachara National Park, Bangladesh." Master's thesis, Shahjalal University of Science and Technology, 2018.

6. **Ahmed, Hasan**. "Detecting tree richness hotspots using Species Area Relationships to compare with land-covers and forest composition of Rema-Kalenga Wildlife Sanctuary, Habiganj, Bangladesh." Bachelor's thesis, Shahjalal University of Science and Technology, 2016.

TRAINING/COURSES

Neural Networks and Deep Learning   Feb 2021
Deeplearning.AI, Coursera Online
Verify at https://coursera.org/verify/A9WUERYUBAS9

Tailor-made Training on the Use of UAV Images for the   Jul 2017 – Apr 2018
Application of Remote Sensing on Natural Resources
Faculty of Geo-Information Science and Earth Observation (ITC) of the University
of Twente., Enschede, The Netherlands

Training on SPSS and MATLAB   Apr 2013
Shahjalal University of Science and Technology, Sylhet, Bangladesh

LEADERSHIP ACTIVITIES

President, Green Explore Society   Mar 2014 – Apr 2015
Shahjalal University of Science and Technology, Sylhet, Bangladesh

Co-Founder and Vice-President, Golapganj Student Association   Dec 2012 – Dec 2015
Shahjalal University of Science and Technology, Sylhet, Bangladesh