

MD SALMAN RAHMAN

CONTACT INFORMATION

Fatema Monzil, 912, East Nasirabad
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Bangladesh.

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[Google Scholar](#)

RESEARCH INTERESTS

Artificial Intelligence, Machine Learning, Inference & Decision Making Under Uncertainty, Optimization, Intelligent Agents, Computational Sustainability, AI for Good, and Applied Data Science.

EDUCATION

Chittagong University of Engineering and Technology
B.Sc. in Civil Engineering with Honors, CGPA: **3.84/4.00**
Class Rank: Summa Cum Laude (2nd in a class of 126 students)

Bangladesh
Fall 2018

AWARDS

- Presidential Graduate Research Assistantship for master's study. 2020
- Dean's list award for academic excellence at all levels of undergraduate study. 2018
- University merit scholarship for academic excellence at all levels of undergraduate study, Bangladesh. 2014-2018
- High school scholarship awarded by government of Bangladesh. 2008
- Primary school talent pool scholarship awarded by UNICEF & government of Bangladesh. 2005

PUBLICATIONS

Peer-reviewed Journal (*denotes co-first author)

- [1] Mohammed Sarfaraz Gani Adnan, **Md Salman Rahman**, Nahian Ahmed, Bayes Ahmed, Md. Fazleh Rabbi, Rashedur M. Rahman. *Improving spatial agreement in machine learning-based landslide susceptibility mapping*. In Remote Sensing, 12(20), 3347, 2020. (Impact Factor : 4.118). [\[Link\]](#)

Conference Abstract

- [1] **Md Salman Rahman**, Md Reaz Akter Mullick, Panjarul Haque, Nadia Sultana Nisha. *Effect of Climate Change to Irrigation Water Requirement in an Irrigation Project of Bangladesh*. In American Geophysical Union (AGU) fall meeting in San Francisco, USA (December 2019). [\[Link\]](#)
- [2] Emon Roy, **Md Salman Rahman**, Nadia Sultana Nisha. *Climate Change Induced Disaster and Adaption Strategy at Coastal Region of Bangladesh: a Case Study on Saint Martin Island*. In American Geophysical Union (AGU) fall meeting in San Francisco, USA (December 2019). [\[Link\]](#)
- [3] **Md Salman Rahman**, Rupom Kanti Dhar, Md Reaz Akter Mullick. *Seasonal Weather Prediction for Bangladesh Based on ENSO Condition*. In American Geophysical Union (AGU) fall meeting in San Francisco, USA (December 2019). [\[Link\]](#)
- [4] **Md Salman Rahman**, Nadia Sultana Nisha. *Sustainability Impact on Bangladesh Due to Influx of the Rohingya Immigrants*. In International Conference on the Rohingya Crisis in Comparative Perspective, UCL Institute for Risk and Disaster Reduction, University College London, UK (July-2019). [\[Link\]](#)

Others

- [1] Emon Roy, **Md Salman Rahman**, Nadia Sultana Nisha, Amlan Barua. *Water Vulnerability Scenario of a Typical Populous City of Least Developed Country*. In 5th International Conference on Civil Engineering for Sustainable Development (ICCESD 2020).

- [2] **Md Salman Rahman**, Sultan Mohammad Farooq, Md Aftabur Rahman. *Improvement of Soft Soil by Physical and Chemical Interaction*. In 4th International Conference on Advances in Civil Engineering (ICACE 2018). [\[Link\]](#)

In Review

- [1] Tamal Chowdhury, Hemal Chowdhury, **Md Salman Rahman**, Monirul Islam Miskat, Nazia Hossain, Piyal Chowdhury, Sadiq M. Sait. *Progress of Solar Energy Application in Bangladesh, Techno-economic Analysis and Implementation of Artificial Intelligence* (Under review in Utilities Policy, Impact Factor : 1.835).
- [2] Md Reaz Akter Mullick, **Md Salman Rahman**, Md Panjarul Haque. *More Crops Whilst Saving Drops Using an Optimization Model – a Case from Bangladesh* (Under review in Irrigation and Drainage, Impact Factor : 1.027).
- [3] *Monirul Islam Miskat, ***Md Salman Rahman**, Nazia Hossain, Md. Fazleh Rabbi, Nadia Sultana Nisha, Hasan Yildizhan. *Assessment of Sustainability for Turkey's Residential Sector with Advanced Thermodynamics Analysis* (Under review Journal of Building Engineering, Impact Factor : 3.379).
- [4] Tamal Chowdhury, Hemal Chowdhury, **Md Salman Rahman**, Monirul Islam Miskat, Piyal Chowdhury, Sadiq M. Sait. *A Review of the Hydropower Production Potential in Bangladesh to Encounter the Energy Requirements* (Under review IEEE Access, Impact Factor : 4.098).
- [5] Tamal Chowdhury, Hemal Chowdhury, **Md Salman Rahman**, Piyal Chowdhury, Muhammad Bhuiya. *Preliminary Design of a Stand-Alone Energy Hybrid System for a Makeshift COVID-19 Health Care Center: A Case Study* (Under review Journal of Building Engineering, Impact Factor : 3.379).

SERVICES

Journal Reviewer [\[ORCID\]](#)

- Water Resources Management

TALKS

Data Science and Machine Learning to Tackle Societal Challenges [\[Details\]](#)

University of Texas RGV, SPIE Student Chapter Seminar, August 2020

RESEARCH EXPERIENCE

AI for social good [Remote sensing Journal]

- Develop a machine learning-based landslide susceptibility map for Rohingya refugee with a better spatial agreement and minimizing the uncertainty involved in various methods.

Machine learning and optimization for sustainable agriculture

- Designed a linear programming optimization model to maximize crop production and subsequently net benefit considering the climate change effects.

WORK EXPERIENCE

Research Assistant, ECE Department, North South University

Fall 2020 - Present

Supervisor: [Professor M. Rashedur Rahman](#)

Project Title: Developing a intelligent species (Odanata) classification system.

RELEVANT COURSEWORK

Undergraduate (summary)

- Courses in engineering mathematics (Differential & integral calculus, vector calculus, linear & vector algebra, differential equations, matrices, probability, Laplace & solid geometry, spherical trigonometry, Fourier analysis & harmonics), programming, and basic science.
- Courses related to smart cities, transportation engineering (traffic flow, intelligent transportation system, railway, air & water transportation system) & operation research, sur-

veying (remote sensing), climate & hydrology, sustainability, and environmental engineering.

TECHNICAL SKILLS

Languages: Python, C++, R, MATLAB, OCTAVE, C, Java.

Frameworks: TensorFlow, PyTorch, Flask, Keras, Django, REST Api, Bootstrap.

Libraries: Numpy, Scikit-learn, Seaborn, Pandas, Matplotlib, SciPy.

Statistics: R, IBM.

Database: MySQL.

Remote sensing: ArcGIS, Google Earth Engine, R.

Data Structures and Algorithms: Familiar with concepts used in data mining and machine learning.

Others: Data analysis using Python & R, Google Colab, IBM Watson Studio, IBM Developer Skills Network Labs, Jupyter & Zeppelin Notebook.

REFERENCE

Available upon request