Md Salman Rahman

CONTACT INFORMATION

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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, Remote Sensing, and Applied Data Science.

EDUCATION

Chittagong University of Engineering and Technology — *Bangladesh*
B.Sc. in Civil Engineering with Honors, CGPA: **3.84/4.00** — *Fall 2018*
Class Rank: Summa Cum Laude (top 1-2% in a class of 126 students)

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] *Monirul Islam Miskat, ***Md Salman Rahman**, Nazia Hossain, Md. Fazleh Rabbi, Nadia Sultana Nisha, Hasan Yildizhan. *Energy, Exergy, and Sustainability Analysis of Fossil-fuel Applications in the Industrial Sector of Iran: A Case Study* (Under review Environmental Science and Pollution Research, Impact Factor : 3.056).

[6] 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

Fundamental of Satellite Remote Sensing. North South University, September 2020.

Data Science and Machine Learning to Tackle Societal Challenges. 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: Dense prediction under pseudo-random and non-random noise in multidimensional labels.

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