

# Md SALMAN RAHMAN

---

## CONTACT INFORMATION

Fatema Monzil, 912, East Nasirabad  
Chattogram,  
Bangladesh.

Email: [mdsalman.rahman01@utrgv.edu](mailto:mdsalman.rahman01@utrgv.edu)  
Homepage: <http://salmanrahman.me/>  
[\[Google Scholar\]](#) [\[dblp\]](#)

## RESEARCH INTERESTS

Machine Learning, Computer Vision, Deep Learning, Computational Sustainability, Remote Sensing, Image Processing, Optimization, AI for Good, 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). [\[Link\]](#)
- [2] Monirul Islam Miskat, Ashfaq Ahmed, **Md Salman Rahman**, Hemal Chowdhury, Tamal Chowdhury, Piyal Chowdhury, Sadiq M. Sait, Young-Kwon Park. *An overview of the hydropower production potential in Bangladesh to meet the energy requirements*. In Environmental Engineering Research, 2020. (Impact Factor: 1.438). [\[Link\]](#)

### 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 Majumder. *Water Vulnerability Scenario of a Typical Populous City of Least Developed Country*. In 5th International Conference on Civil Engineering for Sustainable Development (ICCESD 2020). [\[Link\]](#)
- [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 in Journal of Building Engineering, Impact Factor : 3.379).
- [4] \*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 in Environmental Science and Pollution Research, Impact Factor : 3.056).
- [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 in Journal of Building Engineering, Impact Factor : 3.379).
- [6] Hemal Chowdhury, Tamal Chowdhury, **Md Salman Rahman**, Monirul Islam Miskat. *Estimating the Medical Waste Generation During COVID-19 Pandemic in Bangladesh* (Under review in Resources, Conservation & Recycling, Impact Factor : 8.086).

#### SERVICES

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

- Water Resources Management

#### TALKS

**Remote Sensing Data Processing**, North South University, Bangladesh, November 2020.

**Fundamental of Satellite Remote Sensing**, North South University, Bangladesh, October 2020.

**Data Science and Machine Learning to Tackle Societal Challenges**, SPIE Student Chapter Seminar, University of Texas RGV, USA, 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  
Supervisor: [Professor M. Rashedur Rahman](#)

Fall 2020 - Present

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