

Md Salman Rahman

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EDUCATION	University of Texas RGV M.S. in Applied Mathematics Concentration: Machine Learning and Applied Mathematics 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)	Edinburg, TX Bangladesh July 2018
RESEARCH INTERESTS	Theoretical Deep Learning: Deep mathematical understanding of the properties of neural networks. Computational Sustainability and Intelligent Systems: Machine learning to address climate, economics, energy & agricultural challenges and developing intelligent & autonomous agent for a better and dynamic society.	
PUBLICATIONS	<p>Journal</p> <ul style="list-style-type: none">[1] Md Sarfaraz Goni Adnan, Md Salman Rahman, Nahian Ahmed, Bayes Ahmed, Md. Fazleh Rabbi, Rushedul Haque. <i>Improving spatial agreement in machine learning-based landslide susceptibility mapping</i> (Under review in Remote Sensing, Impact Factor : 4.118).[2] Tamal Chowdhury, Hemal Chowdhury, Md Salman Rahman, Monirul Islam Miskat, Nazia Hossain, Piyal Chowdhury, Sadiq M. Sait. <i>Progress of Solar Energy Application in Bangladesh, Techno-economic Analysis and Implementation of Artificial Intelligence</i> (Under review in Utilities Policy, Impact Factor : 1.835).[3] Tamal Chowdhury, Hemal Chowdhury, Md Salman Rahman, Monirul Islam Miskat, Piyal Chowdhury, Sadiq M. Sait. <i>A Review of the Hydropower Production Potential in Bangladesh to Encounter the Energy Requirements</i> (Under review IEEE Access, Impact Factor : 4.098).[4] Tamal Chowdhury, Hemal Chowdhury, Md Salman Rahman, Piyal Chowdhury, Muhammad Bhuiya. <i>Preliminary Design of a Stand-Alone Energy Hybrid System for a Makeshift COVID-19 Health Care Center: A Case Study</i> (Under review Journal of Building Engineering, Impact Factor : 3.379).[5] Md Reaz Akter Mullick, Md Salman Rahman, Md Panjarul Haque. <i>More Crops Whilst Saving Drops Using an Optimization Model – a Case from Bangladesh</i> (Under review in Irrigation and Drainage, Impact Factor : 1.027). <p>Book Chapter</p> <ul style="list-style-type: none">[1] Tamal Chowdhury, Hemal Chowdhury, Pranta Barua, Md Salman Rahman, Piyal Chowdhury, Nazia Chowdhury. <i>Bioenergy Production from Food Waste and Machine Learning Application</i>.[2] Tamal Chowdhury, Hemal Chowdhury, Monirul Islam Miskat, Md Salman Rahman, Piyal Chowdhury, Nazia Chowdhury. <i>Membrane Based Hybrid Processes for Wastewater Treatment</i>. <p>Conference Abstract</p>	

- [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). [\[Link\]](#)

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

AWARDS

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

RELEVANT COURSEWORK

Undergraduate (summary)

- Courses in engineering mathematics (Differential & integral calculus, vector algebra, differential equations, matrices, vector calculus, Laplace & solid geometry, spherical trigonometry, Fourier analysis & harmonics), programming, and basic science.
- Courses related to sustainability, smart buildings and cities, climate & hydrology, sustainable agricultural system, intelligent transportation system, and advancement towards sustainable development.

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