

# MD MARUFI RAHMAN

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## RESEARCH INTEREST

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Artificial intelligence, Computer vision, Image processing

## EDUCATION

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### Doctor of Philosophy in Computer Science and Engineering

August 2019 - present

University of North Texas

Denton, Texas, CGPA: 3.82/4.00

### Bachelor of Science in Electronics and Telecommunication Engineering

March 2013 - Dec 2017

Rajshahi University of Engineering and Technology.

Rajshahi, Bangladesh, CGPA: 3.32/4.00

## EXPERIENCE

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### Graduate Teaching Assistant

Aug 2019- present

I have worked as a teaching assistant for courses CSCE5390 (multimedia computing), CSCE5350 (fundamentals of databases), CSCE5050 (Application of Cryptography), CSCE4355 (Database Administration), CSCE2110 (computing foundation), CSCE1030 (programming and problem solving using C++). My responsibility was grading, proctoring for exams, mentoring, and helping students with coursework.

### Graduate Research Assistant

Aug 2020- May 2022

I have worked with my doctoral supervisor Dr. Oh on solving different image analysis challenges for the gastrointestinal videos dataset. My responsibility here was to solve and generate new ideas for medical image analysis with image processing techniques and deep learning methods.

### Graduate Teaching Fellow

May 2020- Aug 2020

My responsibility was teaching Undergraduate students the Fundamentals of Database Systems course (CSCE 4350). I was the summer instructor for this course.

### House Tutor

Jul 2018- Aug 2019

My responsibility was mentoring students for the Undergraduate Admission Test concentration on mathematics and physics preparation. I especially taught Probability, Geometry, Calculus, Matrices, electromagnetism, and optics to twelfth-grade students based on the national curriculum syllabus.

### Undergraduate Research Assistant

Dec 2016- Jul 2018

My responsibility was to implement new ideas for the project "Design and analysis of transcranial magnetic coils to stimulate brain neurons for various neurological disorders."

## PUBLICATIONS

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(1) **M. M. Rahman**, JH Oh, Wallapak Tavanapong, Johnny Wong and Piet C. de Groen, "Automated Bite-block Detection to Distinguish Colonoscopy from Upper Endoscopy using Deep Learning", *2021 16th International Conference on Visual Computing (ISVC)*, virtual, 2021, pp. 216-228.

(2) **M. M. Rahman**, M. K. Hosain, S. Ahmed and M. W. Al Azad, "Deep Transcranial Magnetic Stimulation Using Center Dense and Center Sparse Double Cone Coil on Realistic Head model", *2018 International Conference on Computer, Communication, Chemical, Material and Electronic Engineering (IC4ME2)*, Rajshahi, 2018, pp. 1-4.

(3) **M. M. Rahman**, M. K. Hosain, S. Ahmed and M. W. A. Azad, "Investigation of coil designs for transcranial magnetic stimulation on realistic head model", *2017 IEEE Region 10 Humanitarian Technology Conference (R10-HTC)*, Dhaka, 2017, pp. 279-283.

(4) **M. M. Rahman**, J. R. Mou, K. Tara and M. I. Sarkar, “Real time Google map and Arduino based vehicle tracking system”, *2016 2nd International Conference on Electrical, Computer Telecommunication Engineering (ICECTE)*, Rajshahi, 2016, pp. 1-4.

## TECHNICAL SKILLS

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<b>Programming Skill</b>	C plus plus, Python, R, Matlab, SQL
<b>Framework and Tools</b>	Tensorflow, Keras,Pythorch, OpenCV, NLTK, Pandas, Numpy, Scikit learn, Scipy
<b>Cloud Platform</b>	GCP
<b>Application Software</b>	Expert on Microsoft Office TM

## PROJECT WORKS

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- Identifying Single Cell RNA sequence Data Using supervised learning
- Kaggle competition: COVID19 Global Forecasting (Week 4)
- GSM GPS based vehicle tracking system using Arduino
- CCTV monitoring system by face detection using python package

## UNDERGRADUATE COURSES

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Design and Analysis of Signal and Systems Using MATLAB, **Data structure**, **C programming**, VLSI Design, **Numerical Methods in Engineering**, Digital Signal Processing, **Digital image processing**, **Engg. Mathematics- I**(Differential calculus, Integral calculus, Matrix), **Engg. Mathematics-II**(Ordinary differential equations, Partial differential equations, Series solution, Co-ordinate geometry), **Engg. Mathematics-III-** (Vector analysis, Fourier analysis, Laplace transforms), **Engg. Mathematics-IV**(Complex Variable, Statistical Analysis), Microprocessor and Microcomputer,

## GRADUATE COURSES

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Programing languages, **Deep learning**, **Multimedia Computing**, Bio Computing, Parallel and Distributed Database, **Feature Engg.**,Design and Analysis of Algorithm,Human/Machine Intelligence, Machine Learning for Precision in Medicine, **Empirical Analysis**

## REFERENCE

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(will provide upon request)