

Md. Mushfiqur Rahman

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🌐 https://mushfiqur11.github.io

in mushfiqur11

AI | ML/DL Research | Computer Vision Research

Education

George Mason University, VA, USA

Incoming Ph.D. student

Starting Fall 2021

Islamic University of Technology, Gazipur, Bangladesh

BSc. Engg. in Computer Science and Engineering

2017 Jan – 2021 Mar

CGPA: 3.79/4.00

Thesis: **StructGAN: Image restoration maintaining structural consistency using two step Generative Adversarial Networks**

Notre Dame College, Dhaka, Bangladesh

Higher Secondary Certificate (HSC) – GPA: 5.00/5.00

2016

St. Joseph Higher Secondary School, Dhaka, Bangladesh

Secondary School Certificate (SSC) – GPA: 5.00/5.00

2014

Work Experience

George Mason University, VA, USA

Graduate Teaching Assistant

Starting 2021 Aug

Military Institute of Science and Technology, Dhaka, Bangladesh

Lecturer

2021 Mar – 2021 Jul

Taught Academic Courses: “Artificial Intelligence Sessional”, “System Analysis and Design Sessional”

Conducted Special Courses: “Python for Data Science”, “Introduction to Machine Learning”

Dhaka University of Engineering and Technology, Gazipur, Bangladesh

Research Assistant

2020 Feb – 2020 Dec

Conducted research on **automated class scheduling** algorithms under the supervision of Dr. Fazlul Hasan Siddiqui. Developed a fast and efficient technique to automate the process.

Samsung R&D Institute Bangladesh, Dhaka, Bangladesh

Research Intern

2019 Nov – 2020 Jan

Built an **equirectangular GAN** architecture for image generation from 3-D models using Pytorch

M-World, Dhaka, Bangladesh

Game Development Team Lead

2019 Jul – 2019 Sept

Led a team to develop 2 android-based games using **Unity** for a nutrition awareness project funded by **GAIN** and **BSMMU**.

Notable Projects

Machine Learning or Deep Learning

Random Doodle Generator with GAN

with Pytorch

Comparative Study between YOLO v3, v4, and EfficientDet for Object Detection

with Pytorch

Bengali Hand-written Digit Classification [[Link](#)]

with Tensorflow

Parameter Optimization of CIFAR-10

with Pytorch

Android and PC Games

Pothe Pothe [[Link](#)], Radhuni Ami [[Link](#)], White Space [[Link](#)]

with Unity and C#

Web App/Software

Travel Management Desktop App - Demo

with Java and JDBC

Online Cricket Scoring App - Demo [[Link](#)]

with C++ and Qt

Robotics

Remote-Controlled Vehicle and Line-follower Robots

with Android and Raspberry Pi

Key Skills

Programming Languages

Proficient in C/C++ and Python

Working knowledge of C#, Java, Javascript, and MATLAB

Frameworks

Proficient in Pytorch, and Tensorflow frameworks for ML and DL research and applications

Working knowledge of React, React Native and Django for web development

Courses and Certifications

Collaborative Institutional Training Initiative (CITI) Program

Data or Specimens Only Research (Basic Course) [\[Verify\]](#)

2021 Mar

Coursera offered courses

Deep Learning Specialization [\[Verify\]](#)

by DeepLearning.AI

Front-End JavaScript Frameworks: Angular [\[Verify\]](#)

by HKUST

Introduction to Psychology [\[Verify\]](#)

by University of Toronto

Machine Learning [\[Verify\]](#)

by Stanford University

Research Experience

Publications

[1] **Md. Mushfiqur Rahman**, Nahian Muhtasim Zahin, Kazi Raiyan Mahmud, Md. Azmaeen Bin Ansar. "Automated Intersection Management with MiniZinc." *2020 2nd International Conference on Sustainable Technologies for Industry 4.0 (STI)*, 19-20 December, Dhaka (DOI 10.1109/STI50764.2020.9350408) [\[Paper\]](#). (2020).

[2] **Md. Mushfiqur Rahman**, Sabah Binte Noor, Fazlul Hasan Siddiqui. "Automated Large-scale Class Scheduling in MiniZinc." *2020 2nd International Conference on Sustainable Technologies for Industry 4.0 (STI)*, 19-20 December, Dhaka (DOI 10.1109/STI50764.2020.9350485) [\[Paper\]](#). (2020).

On-going/Under review

[3] Ali Abir Shuvro, Md Ashfak Raiyan, **Md. Mushfiqur Rahman**, Sabbir Ahmed, Md. Hasanul Kabir. "A comparative study of object detection algorithms for vehicle detection." *On-going Research*. (2021).

[4] **Md. Mushfiqur Rahman**, Kazi Raiyan Mahmud, Nahian Muhtasim Zahin, Md. Hasanul Kabir. "Struct-GAN: Image restoration maintaining structural consistency using two step Generative Adversarial Networks." *Submitted for peer-review*. (2021).

[5] **Md. Mushfiqur Rahman**, Thasin Abedin, Khondokar S. S. Prottoy, Ayana Moshruha, Fazlul Hasan Siddiqui. "Video captioning with stacked attention and semantic hard pull." *Under review at PeerJ CS* [\[Paper\]](#). (2020).

Notable Awards and Accolades

App/Idea Development or ML Competitions

Silver Medal in Kaggle Competition: "Bengali.AI Handwritten Grapheme Classification" 2020

Champion of "Intra IUT App Development Contest" 2019

Runner-up of "Inter University App Development Contest" at 10th IUT ICT Fest 2019

Champion of "ICT4D Competition" at 4th AUW ICT Fest 2018

International Assessment for Schools (IAS) by UNSW

Country Topper and Gold Medalist in Mathematics (x2) 2007, '14

Olympiads

Medalist in National Mathematical Olympiads (x4) 2008, '11, '12, '13

Medalist in Divisional Mathematical Olympiads (x5) 2008, '11, '12, '13, '15

Medalist in Divisional Physics Olympiads (x2) 2012, '13

Voluntary Work Experience

Neural Intelligence in Tech - Research Organization (NITRO)*Bangladesh*

Co-Founder and Sr. Executive Researcher

2019 - Present

Founded a research-paper discussion group to increase research interest among fellow classmates. Led the group to formulate a research ecosystem that facilitates inter-university and inter-disciplinary collaborative research in AI, ML, DL and CV fields

Bangladesh Mathematical Olympiad Committee, *Bangladesh*

Academy Team Member

2016 - 2017

Facilitated smooth operations of divisional Mathematical Olympiads held nation-wide

Extra-Curricular Activities

Cricket

Played for the Josephites Cricket Team

2011 - 2021

Played for IUT CSE (Champion in '19 and '20; Runner-up in '17 and '18)

2017 - 2019