# Md. Mizanur Rahman

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Rajshahi, Bangladesh

#### **EDUCATION**

Rajshahi University of Engineering and Technology

February 2020 - June 2025 (expected)

Rajshahi, Bangladesh

Bachelor of ComputerScience and Engineering

∘ GPA: 3.79/4.00 (as of Level - 3 Term -2)

May 2019

• Notre Dame Collage Higher Secondary Certificate

Dhaka, Bangladesh

o GPA: 5.00/5.00

Khwaja Yunus Ali Laboratory School and College

March 2017

Sirajganj, Bangladesh

Secondary School Certificate

• GPA: 5.00/5.00

#### **PUBLICATIONS**

C=CONFERENCE, J=JOURNAL, P=PATENT, S=IN SUBMISSION, T=THESIS

- [J.1] (In perparation) A Novel Approach of Secure Audio Transmission in Post-quantum Era.
  Md. Raisul Islam Rifat, Md. Mizanur Rahman, Md. Abdul Kader Nayon, Md Shawmoon Azad and M.R.C. Mahdy.
  Quantum Science and Technology.
  - Designed a novel scheme of secure audio communication by incorporating E-91 Quantum Key
     Distribution with SHA-3 Hashing Algorithm, ChaCha20-Poly1305 AEAD and LSB steganography.
- [S.1] (In perparation) Detection of Hallucination in Multimodal Large Language Models Across the Modalities: A Comprehensive Review.

Md. Mizanur Rahman

(https://drive.google.com/file/d/1RrxYucldx3S6yjzBlvQAnPB5T1u5DQ3J/view?usp=sharing)

- Describe the basic building block and training methods of MLLMs.
- Reviewed hallucination metrics and benchmarks in MLLMs across the text, image, audio and video modalities.

#### RESEARCH EXPERIENCE

- Familiarization with Quantum Computing, Quantum Key Distribution and Post-quantum Cryptography. 2024-2025 Supervisor: M.R.C. Mahdi, Department of Electrical and Computer Engineering, North South University, Bashundhara, Dhaka
  - Learned about Quantum Matrix Mechanics and implemented BB84, B92 and E91 Quantum Key Distribution protocols as well as Quantum-safe Cryptography schemes such as Lattice-based cryptography using QISKIT.

#### **PROJECTS**

• Build Large Language Model from Scratch

2025

[**(**)

2023

- Developed a GPT-like LLM from scratch with the help of the Book titled Build Large Language Model (From Scratch) by Sebastian Raschka
- Hands on Large Language Model

- Text Classification: Classified text with both representative and generative models
- Text Clustering and Topic Modeling: Clustered documents using a wide variety of language models.
- · Micrograd: A tiny Autograd engine

2025

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- Developed Micrograd, which implements backpropagation (reverse-mode autodiff) over a dynamically built DAG and a small neural network library on top of it with a PyTorch-like API.
- Simulation of a 5-bit CPU in Digital Simulator and Verification of Its Correctness Using Sample Code Stored in ROM

2024

• A 5-bit CPU was simulated using a digital simulator and verified by executing sample code stored in ROM. The CPU supports OR, ADD, and SHR operations, with 5 registers, a 10-word RAM (15-bit word size), and instructions including register-based, immediate, and branching (JMP, JL).

## **SKILLS**

- Competitive Programming: Codeforce (Pupil, Solved 800+ Problems), Codechef(3\*)
- **Programming Languages:** C, C++, C#, Python, Java, Assembly, Verilog.
- Data Science & Machine Learning: NumPy, Pandas, Matplotlib, TensorFlow.
- Databases: MySQL, PostgreSQL

# LANGUAGE PROFICIENCY

• English: Proficient

• Bengali: Native Language

## REFERENCES

Dr. Mahdy Rahman Chowdhury Associate Professor, ECE Department, North south Univarsity, Dhaka

Contact: mahdybuet@gmail.com | Google Scholar