

Md. Tanjim Mahmud Tuhin

ELECTRICAL ENGINEER

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Recent graduate in Electrical, Electronic, and Communication Engineering from the Military Institute of Science and Technology (MIST), with a strong passion for Robotics, Artificial Intelligence, Nano Satellites, and UAVs. Actively engaged in various technical projects and leadership roles within the MIST Robotics Club. Proficient in Python, Arduino, and Networking, with a knack for motivational speaking and project management.

PROFESSIONAL EXPERIENCE

Tele-talk Bangladesh Limited

| Position: Internee | Duration: Jan 2023 - Feb2023

Bangladesh Telecommunication Regulatory Commission (BTRC)

| Position: Internee | Duration: Feb 2023-Feb 2023

PERSONAL PROJECTS

PCB Design of the wheel for Mongol Barota | September -2023

Made a PCB design in Proteus software and printed from JLC PCB for mars robotic wheel control to remove wire complexity, more space and a nice look

- Installing Arduino library in Proteus software to collaborate with stepper motor(TB 6600)
- Contains Arduino, Buck converter, Battery and stepper motor to make PCB design
- Used 4 decoupling capacitors near power pin to filter noise.
- Placed thermal vias in whole PCB specially under motor driver for heat dissipation.

Digitization of wireless communication for Mongol Barota | April -2023

In wireless radio communication radio master tx16 was used for better connectivity and low latency

- Upgrade Analog Rx protocol (PWM) to Digital Rx protocol (S bus)
- From 18 channel we used just 12 of them

Manipulation of Robotic Arm | July-2023 | [Project-files](#)

It is a conveyor-belt based production line robot which can differentiate and remove undesired items from belt automatically. A 7DOF Robotic Arm, Raspberry-pi, Arduino Mega, and cell phone camera was used to distinguish between a cup and a bottle to put them in their designated place.

- Raspberry-pie as a brain and Mobile net-SSD a machine learning model for object detection.
- Arduino Mega as a buffer controller to control the movements of 7 servo motor.
- Python and C++(sketch) to code the whole project.

IOT based Gas and Fire Alarm | November-2022 | [Project-Files](#)

ESP-32/8266 based real time (14s delay) gas and fire alarm via Thing-speak IOT platform and IFTTT.

- A server-client based gas and fire alarm where ESP-32/8266 as a brain to process analog output from gas and fire sensor and connect to server.
- C++ and server request-action based coding was used.

Slime between us | June-2023 | [Attachment](#)

It's a game made by me and my friend in unity engine for a competition organized by IUT

- Unity engine and C# language for its code
- gameplay design are made by hand and for music we used bit song generated by AI.

Cosmo- clench Robot | June-2022 | [Project-files](#) | [Attachment](#)

It is a customized hand made robotic arm on a remote-controlled car. Arduino-uno, Servo motor, Geared Dc motor, esp-8266 module and a joystick controller was used to accomplish the desired result.

- Arduino-uno as brain.
- Esp-8266 as signal transmitter.
- C++(sketch) and Proteus to code and model the project.

Digital image processing with pseudo coloring

- converting image from gray scale to RGB and denouncing use this wavelet transform and fft function.

Mosfet H bridge circuit for DC motor control

- Designed and tested a sophisticated circuit to control the direction and speed of DC motors, enhancing practical skills in electronics and control systems.

Temperature and Humidity check using basic gates

- Developed a functional circuit employing AND, OR, and NOT gates to effectively monitor and display temperature and humidity levels, showcasing expertise in digital electronics and sensor integration.

LFR+ Soccer bot | [Attachment](#)

- Developed and programmed an autonomous line-following robot with soccer-playing capabilities using Arduino, demonstrating skills in robotics, embedded systems, and programming.

COMPETITIONS AND PERFORMANCES

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|---|----------|
| • Quarter finalist in Cosmo-robot section at Tech-fest IIT, Bangladesh Regional– DUET | Nov-2022 |
| • Semi-finalist in Line follower segment in robotics competition – IUBAT | Oct-2022 |
| • Participated in EEE day – KUET | Nov-2023 |
| • Participated in Esonance - IUT | Nov-2023 |

ACHIEVEMENT

5th position at Anatolian Rover Challenge (ARC'23) in world.| [Proof](#) July-2023

TECHNICAL SKILLS

Programming knowledge: Python, C , MATLAB

Micro-controller : Arduino

Software & Tools : Microsoft Office, Proteus, Cadence, Cisco Packet tracer, Windows, Linux, LaTeX, Autocad, MySQL

EDUCATION

MILITARY INSTITUTE OF SCIENCE AND TECHNOLOGY (MIST)

Bachelor of Science in Electrical Electronic and Communication Engineering

| Feb 2020 – March 2024

THESIS

A COMPARATIVE STUDY OF INORGANIC LEAD HALIDE PEROVSKITES BY ANALYZING THEIR ELECTRICAL, OPTICAL AND MECHANICAL PROPERTIES | [Attachment](#) | [IEEE Link](#)

PUBLICATIONS

A Generalizing Violence Detection with a New Near-Real-World Violence Datasets

| [IEEE Link](#)

Co-Curricular Activities

- **Vice President** –Robotics Club MIST(MRC) | April 2023-March 2024
- **Head of video Editing** – MIST Innovation Club(MIC)
- **Instructor** –Robotics and coding workshops in MIST.

ADDITIONAL INFO

Problem Solving: [Code forces](#) | 50+ Problem solved

Language: Bangla (*Native*), English (*Fluent*), Hindi (*Conversational*)

References

Lt Col Md. Nakibul Alam,psc,sigs

(Thesis supervisor)

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