Al Nahian Mugdho

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About Me

Dedicated to driving innovation and eager to contribute my skills and knowledge to a forward-thinking organization.

Special Qualification

- Good knowledge of technology
- Multitasking ability
- Problem-Solving
- Strong collaborative skill
- IoT Enthusiast
- Quick learner
- Creativity with technology
- Good Management

Technical Skills

- Programming Language: C, C++, Python, HTML , Micropython, Arduino
- Software: CST Studio Suite, MATLAB, Simulink, Proteus, EasyEda, Fritzing, EMU 8086, Microwind 2, COMSOL, Arduino, Thonny, Huwaei eNSP
- Tools: Latex, Igor Pro, Canva, Microsoft Office, MIT App Inventor, ThingSpeak, Adafruit IO, Google Data Studio

Education

Program	Institution	CGPA	Year
BSc. (Electronics & Telecommunication Engg)	Rajshahi University of Engineering & Technology, Rajshahi, Bangladesh	3.43/4	2019-24
HSC (Science)	Saint Joseph Higher Secondary School, Dhaka, Bangladesh	5/5	2016-18
SSC (Science)	Monipur High School & College, Dhaka, Bangladesh	5/5	2007-16

Key Projects

1. IOT based Environment Expedition Robot   **Nov-Dec 2022**
(BSc. / Supervisor: A. S. M. Badrudduza)   *RUET*

- Designed and built an IOT-based expedition robot for the data collection on soil properties, air quality, and ambient conditions in remote environments and sent the corresponding values through the internet in a Google Dashboard.
- *Keywords: IoT, ESP 32, Google Data Studio, MQTT, MicroPython, EasyEda*

2. Android Based Home Automation and Security System   **Sept 2021 - Oct 2021**
(BSc. / Supervisor: Md. Aslam Mollah)   *RUET*

- An Android application controls a hardware system that includes lights, fans, and door locks, and includes an environmental gas leakage and fire security system
- *Keywords: Microcontroller (ATmega328p), Home Automation System, Android App, Bluetooth Home Automation Gas Leakage Detection, Arduino*

3. Atmega32 based Vending Machine   **Sep 2022**
(Personal)

- Developed a Vending Machine using the Colour sensor.
- *Keywords: Proteus, TCS 230 Colour Sensor, Arduino*

Course Projects

1. *Micro Strip Patch Antenna Using CST Studio Suite.*   **Dec 2022**
(ETE 3218 / Faculty: Dr. Md. Kamal Hosain)   *RUET*

○ Developed a microstrip rectangular patch antenna operating at 1.43 GHz resonance frequency using **CST Studio Suite**.

2. *Digital Image Processing using Python*   **Jan 2024**
(ETE 4226/ Faculty: Dr. Shah Ariful Hoque Chowdhury)   *RUET*

○ Geometric Transformation, Intensity Transformations and Image Filtering, Line Detection, Edge Detection, Clustering, Hough Transform using **Python**.

3. *Fully Connected Neural Network and Convolutional Neural Network Using Python*   **Jan 2024**
(ETE 4226/ Faculty: Dr. Shah Ariful Hoque Chowdhury)   *RUET*

○ Designed a Fully Connected Neural Network and Convolutional Neural Network Using Deep Learning Libraries using **Python**.

4. *Designing a Cyclo Converter in Simulink*   **Oct 2021**
(EEE 2254 / Faculty: S. P. Biswas)   *RUET*

○ Developed a single phase cyclo -converter using **Simulink**.

5. *Computational Device using Microprocessor 8086*   **Dec 2022**
(EEE 3254 / Faculty: A. S. M. Badrudduza)   *RUET*

○ Developed a mini-computer using 8086 microprocessor from **EMU 8086** (GA) with assembly language.

6. *VLAN and Dynamic VLAN Configuration*   **Jul 2023**
(ETE 4114/ Faculty: Hasan Sarkar)   *RUET*

○ Designed VLAN routing protocol in data communication using **Huwaei eNSP** Software.

7. *Programmable Logic Array*   **Aug 2023**
(ETE 4112/ Faculty: Dr. Mst. Fateha Samad)   *RUET*

○ Designed Mask Layout of PLA using NMOS and CMOS Technology using **Microwind 2** Software.

8. *Superheterodyne Receiver for Radio*   **Feb 2024**
(ETE 4214/ Faculty: Sham Datto)   *RUET*

○ Designed and implemented a Superheterodyne Receiver with **analog circuit**.

9. *A Narrowband or Frequency-Flat Fading Channel in a Wireless Communication System*   **Jun 2023**
(ETE 4116/ Faculty: Md. Tarek Hassan)   *RUET*

○ To model a Narrowband or Frequency-Flat Fading channel using Rayleigh and Rician multipath fading objects with **MATLAB** and **Simulink**.

Awards

○ Best Volunteer Award, *Durbar Kandari* (2021)

○ Technical scholarships for Academic Results, *RUET* (2020-2024)

Others

○ Hobbies: Travelling, Photography, Reading Books, Learning languages, Pet-keeping

○ Languages: Bangla, English

Activities

○ Volunteered as a firmware engineer at the non-profit organization "Durbar Kandari", during the COVID-19 pandemic, contributing to the development of low-cost ventilators aimed at providing essential medical support to individuals in need.

○ Co-founded a non-profit organization, 'Anirban' dedicated to assisting the underprivileged and promoting blood donation during the first year of university.