T. M. **Mehrab Hasan**

IoT Engineer · Robotics Engineer · Web Developer · Python Developer

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Summary

With a passion for IoT & Robotics Engineering and Web Development, I aim to leverage my skills to create intelligent, connected systems and dynamic digital solutions for real-world challenges. My focus is on integrating advanced IoT technologies with seamless web platforms to enhance efficiency, connectivity, and user experience. Committed to continuous learning and creative problem-solving, I seek to contribute meaningfully to both industry and society by developing technology-driven solutions.

Education

Gazipur Digital University   *Kaliakair, Gazipur, Bangladesh*

B. Sc. Engg. (IoT & Robotics Engineering)   *Jan. 2020 - Jan. 2025*

- Earned the Bachelors Degree with a CGPA of 3.71 out of 4.00 in "IoT & Robotics Engineering" field.

Notre Dame College   *Dhaka, Bangladesh*

Higher Secondary Certificate   *Jun. 2017 - May. 2019*

- Earned the H.S.C certificate with a GPA of 5.00 in "Science" background.

Monipur High School & College   *Dhaka, Bangladesh*

Secondary School Certificate   *Jan. 2007 - May. 2017*

- Earned the S.S.C certificate with a GPA of 5.00 in "Science" background.

Skills

- **Programming language:** C, C++, Python (Django), HTML, CSS, JS, PHP, Jupyter Notebook, React JS.
- **Database:** MySQL, SQLite, MongoDB, Firebase.
- **Operating System:** Windows, Linux (Intermediate Level).
- **Application Software:** MS Word, MS PowerPoint, MS Excel, Arduino IDE, Netbeans IDE, Anaconda, Android Studio.

Work Experience

Robo Tech Valley   *Dhaka, Bangladesh*

Robotics & Embedded System Engineer   *May 2025 - Curent*

- Designed, developed, and maintained various robotics projects and courses.
- Optimized robotic projects performance, security, and accessibility for improved functionality.
- Integrated sensors, microcontrollers, firebase databases and APIs to support web-based and real-time functionalities.

Greenity Foundation, Bangladesh   *Dhaka, Bangladesh*

Lead Web Developer   *Jan. 2022 - Feb. 2023*

- Designed, developed, and maintained the foundation's website platforms for seamless user experiences.
- Led a team of developers in implementing responsive and dynamic web applications.
- Integrated backend databases and APIs to support web-based functionalities.

Projects

Early Stage Fire Detection Robot   *IoT, Robotics, Wireless*

A mini autonomous robot to detect objects, fires and take necessary followup measures.   *57th International ducation Expo. 2023*

- Built an autonomous robot for fire detection with an automated water sprinkler supporting wireless control and real-time fire alerts.

A Smart IoT Solution for Managing Drainage Congestion in Bangladesh   *IoT, ML, Mobile App*

A system comprises of both IoT and ML that detects the garbage, sorts it, ensures automatic water-flow.   *May. 2024*

- Designed an IoT-based system for garbage detection using ML with automated water-flow control, and real-time monitoring with an alert system.

Intelligent Investment Advisor: A Stacked ML Based Recommendation System with Explainable Insights *ML, DL, Explainable AI*

A ML, DL AND EXPLAINABLE AI BASED RESEARCH TO RECOMMEND SUITABLE INVESTMENT SECTOR AS PER USER'S INFORMATION. *Dec. 2024*

- Developed a Stacked ML-based system for investment recommendations and provided clear reasoning with Explainable AI.

Achievements

2025	**Dean's Certificate & Selection in Dean's List (Two Semesters),** Awarded by Gazipur Digital University	*June 29*
2024	**Advance Cybersecurity Program Certificate,** Awarded by Team Matrix Elite Hackers	*March 15*
2023	**21st Century Employability Skilling (Advanced) Certificate,** Awarded by Wadhwani Foundation	*December 06*
2023	**Cyber Security Training Certificate,** Awarded by Cretive IT Institute	*October 18*
2023	**21st Century Core Employability Skills Development Certificate,** Awarded by Wadhwani Foundation	*October 17*
2023	**Introduction to Cloud Certificate,** Awarded by AWS Academy	*August 16*
2023	**3rd Runner Up,** Upazila Science Fair, Chandra, Gazipur	*May 7*

Publications

Intelligent Investment Advisor: A Stacked ML-Based Investment Sector Recommendations with Explainable Insights *Elsevier, 2025*

JOURNAL PAPER (UNDER REVIEW) *July 2025*

- Proposed a stacked ensemble-based ML & DL framework for personalized investment sector recommendations while integrating explainable AI techniques to enhance transparency and user trust..

Towards Cleaner Cities: A Smart IoT Solution for Managing Drainage Congestion in Bangladesh *11th NSysS 2024*

CONFERENCE PAPER *Dec. 2024*

- Develoed an IoT-based smart drainage system for real-time garbage detection, water level monitoring, and automated flow control with alerts via a web and mobile platform.

Extracurricular Activity

GDU Robotics Club *Gazipur Digital University*

DEPUTY ORGANIZING SECRETARY *May. 2023 - Dec. 2024*

- Assisted in planning, coordinating robotics events and workshops, while managing team logistics for smooth execution.

GDU Programming Club *Gazipur Digital University*

EXECUTIVE SECRETARY *March. 2023 - May. 2024*

- Led coding competitions, while coordinating with team members to organize regular coding sessions and webinars.

GDU Cultural Club *Gazipur Digital University*

PROGRAM SECRETARY *Jan. 2023 - Dec. 2024*

- Organized and managed cultural events, facilitating collaboration between student groups for successful execution.

GDU Language Club *Gazipur Digital University*

KOREAN LANGUAGE SECRETARY *Jul. 2023 - Dec. 2024*

- Managed communication and coordinated activities between club members and external partners and organized learning sessions.

References

FARZANA AKTER
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Declaration

I, hereby, declare that all information I have presented so far is true to my knowledge. If required and where applicable, this document can be supported by authentic certificates/papers.