

Minhaj Uddin Hassan

📍 Chattogram, Bangladesh | 📞 +880 1818 173 025 | ✉ Mdhassan49.muh@gmail.com
🌐 minhaj.tech | 🐙 github.com/muhpuc40 | 🌐 minhajuddin hassan | 🎓 Google Scholar | 📄 ResearchGate | 🆔 ORCID

PROFESSIONAL SUMMARY

Software Developer and Researcher with experience in full-stack web development, IoT systems, real-time applications, machine learning, and computer vision. Experienced in developing production-oriented systems using React, Next.js, Laravel, Node.js, Express.js, ASP.NET Core, MySQL, and REST APIs. Research experience includes ensemble learning for sports analytics, IoT privacy, and deep learning-based computer vision. Strong interest in scalable software architecture, intelligent systems, IoT, and applied machine learning.

EDUCATION

Bachelor of Science in Computer Science and Engineering Nov 2021 – Dec 2026
Premier University, Chattogram, Bangladesh
CGPA : 3.50 out of 4.00

PROFESSIONAL EXPERIENCE

Software Development Trainee Nov 2025 – Nov 2026
Premier University, Chattogram, Bangladesh

- Develop and maintain university software systems while improving existing applications and workflows.
- Design and implement software architectures for new solutions using ASP.NET and Node.js.
- Develop and integrate APIs and support system-level application development.
- Work with application development, testing, maintenance, and system improvement.

Research & Development Engineer May 2024 – Oct 2025
Insights Automata, Chattogram, Bangladesh

- Developed full-stack and IoT solutions involving real-time data communication and connected devices.
- Built industry-oriented IoT systems using ESP32, Arduino, web technologies, and backend services.
- Researched and developed new hardware and software solutions for IoT applications.
- Worked with PHP, WebSockets, Arduino IDE, and embedded systems development.

TECHNICAL SKILLS

- **Programming Languages:** Python, JavaScript, TypeScript, PHP, Java, C++, C#
- **Frontend:** React, Next.js, HTML5, CSS3, Tailwind CSS, Bootstrap
- **Backend & APIs:** Laravel, Node.js, Express.js, ASP.NET Core, REST APIs, WebSockets
- **Databases:** MySQL, PostgreSQL, MongoDB, Firebase
- **Machine Learning & Data Science:** Python, scikit-learn, Pandas, NumPy, Jupyter, Deep Learning, Computer Vision
- **IoT & Embedded Systems:** ESP32, Arduino, Arduino IDE, IoT Networking, Embedded Systems
- **DevOps & Tools:** Linux, Ubuntu, Nginx, Apache, Git, VS Code, Visual Studio, Postman

RESEARCH PUBLICATIONS

Bangladesh Premier League T20 Cricket Match Outcome Prediction Using an Ensemble Learning Approach [\[Link\]](#)
2025 International Conference on Quantum Photonics, Artificial Intelligence, and Networking (QPAIN), July 2025

- Developed machine learning models for predicting Bangladesh Premier League T20 match outcomes using historical data and feature engineering.
- Compared ensemble learning techniques and performed ablation studies on model components.
- Developed a real-time prediction framework for cricket match outcome prediction.

MacRandomizer: Automated IEEE-Compliant MAC Address Randomization for IoT Privacy Protection [\[Link\]](#)
2025 IEEE 4th International Conference on Robotics, Automation, Artificial-Intelligence and Internet-of-Things (RAAICON), November 2025

- Designed an IEEE-compliant MAC address randomization algorithm for resource-constrained IoT devices.
- Developed a lightweight Arduino library to improve wireless privacy and reduce device-tracking risks.
- Focused on practical IoT security and privacy protection for embedded devices.

SELECTED PROJECTS

Sense Your Device (SyD) – IoT Monitoring Platform

Next.js, Laravel, MySQL, WebSockets, REST API

- Developed a real-time IoT monitoring platform for device management, sensor data visualization, and historical data analysis.
- Implemented custom device management and automatically generated API endpoints for connected devices.
- Implemented real-time monitoring using WebSockets with live graph-based sensor visualization.

MOSSIM – E-Commerce Platform

Laravel, Next.js, MySQL, REST API, VPS

- Developed a full-stack e-commerce platform supporting product management, inventory, POS, orders, shipping, returns, payments, and reporting.
- Implemented role-based inventory and business management workflows.
- Deployed and managed the production system on a VPS.

ID Card Detection System

Python, YOLOv8, PyTorch, Ultralytics, Roboflow

- Developed a computer vision system for real-time student ID card detection and institutional identification.
- Prepared a custom-labeled dataset using Roboflow and trained a YOLOv8m object detection model.
- Achieved 0.995 precision, 0.923 recall, and 0.925 mAP@50 with approximately 40.9 ms inference time per image.

Bangladesh Debate Federation Platform

Laravel, React, MySQL, JWT

- Developed a full-stack organizational platform for events, debate clubs, news, blogs, resources, galleries, and administrative content.
- Implemented JWT-based authentication and an administrative management panel.
- Deployed the platform on cPanel.

QAMS – Question Authoring and Moderation System

React, ASP.NET Core 9, Entity Framework Core 9, MySQL

- Developing a CLO-anchored question authoring and moderation system for outcome-based examinations.
- Implemented a three-tier architecture with React frontend, ASP.NET Core Web API backend, and Entity Framework Core data access.
- Designed workflows for question authoring, moderation, question pooling, examination paper assembly, and role-based access.

SmartShelf – Inventory Management System

Next.js, React, Express.js, MySQL, JWT, Zustand

- Developed a multi-role inventory management platform covering products, stock, sales, purchases, suppliers, customers, returns, and analytics.
- Implemented role-based Admin and Staff workflows with JWT authentication.
- Implemented automatic stock synchronization and low-stock monitoring.

LEADERSHIP EXPERIENCE

General Secretary (2024–2025) & Training Secretary (2023–2024)

2023 – 2025

Premier University Robotics Club, Chattogram, Bangladesh

- Led club operations, member training, mentoring, team coordination, and technical activities.
- Organized robotics events, seminars, technical classes, workshops, competitions, and hands-on programs.
- Supported practical learning and growth of the university robotics community.

Web Development Moderator

2026 – Present

PUNAB – Technology & Innovation Forum

Support technology discussions, knowledge sharing, and community engagement around web development and innovation.

TECHNICAL SESSIONS & TRAINING

- **Trainer** – Workshop on Build Your First Remote Controlled Vehicle, Premier University Computer Club, Apr 2026.
- **Trainer** – Session on IoT App & Web Development, Premier University Robotics Club, Oct 2025.
- **Speaker** – Workshop on Git & GitHub, Premier University Robotics Club, Aug 2025.
- **Assistant Trainer** – STEM Bootcamp: Electronics, Robotics & 3D Design, American Corner, Chattogram, Jun 2025.
- **Trainer** – Chandanaish Mathematical Olympiad 2025, May 2025.
- **Assistant Trainer** – IoT Innovators: Hands-on Product Development Workshop, American Corner, Chattogram, Mar 2025.
- **Speaker** – Introductory Session on IoT & Embedded Systems, Premier University Computer Club, Feb 2025.
- **Speaker** – Workshop on Basic Programming for Microcontrollers, Premier University Robotics Club, Dec 2024.

CERTIFICATIONS

- **Deep Learning and Reinforcement Learning** – Coursera
- **Data Structures** – Coursera
- **IoT Networking** – Coursera
- **Software Engineer Certificate** – HackerRank
- **SQL (Advanced) Certificate** – HackerRank
- **SQL (Intermediate) Certificate** – HackerRank
- **SQL (Basic) Certificate** – HackerRank
- **Python** – Kaggle