Musa Ahammed Mahin

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PROFESSIONAL SUMMARY

Motivated engineering graduate specializing in wearable electronics and sensors for next-generation healthcare solutions. Experienced in designing and prototyping wearable sensors for biomechanical applications, with expertise in circuit design, C++ and 3D designing. Committed Passionate about advancing wearable and implantable technologies through innovative, interdisciplinary research to enhance medical diagnostics and engineering.

Education

BRAC University 2018 - 2023

- B. Sc. in Electrical and Electronics Engineering
- **Relevant coursework:** Digital Signal Processing, Microprocessor, Power Electronics, Computer Programming, Control Systems, Numerical Methods, Mathematics for Machine Learning and Signal Processing, Power System I, Power system II, Linear Algebra.

Experience

Decor Energy Solution Limited | Design Engineer Sep 2025 – Present

- Perform **power system design, grid integration, and system reliability analysis** for grid-connected power projects.
- Conduct **AutoCAD electrical designs, PVSyst analysis, load flow studies, and grid compliance checks** to ensure reliable and efficient operation.
- Prepare **technical drawings, BOQ, and design documentation** in compliance with **DESCO, REB, and IEC standards**, and collaborate with **project, procurement, and commissioning teams** for **safe system implementation**.
- Support **tender documentation, feasibility studies, and commissioning activities**, while **supervising and instructing electrical technicians** during execution stages.

Information Technology and Business Incubator, CUET | R&D Specialist May 2024 – Aug 2024

- **Led a data-driven automation project** with a **government security agency**, designing a confidential drone-based system that utilized **real-time sensor data** to improve **operational decision-making and field safety**.
- **Analyzed and cleaned large-scale data**, extracting actionable insights that drove **system optimization** and reduced response time by over **50%**.
- Created **reporting dashboards** and **data documentation** for diverse stakeholders, improving visibility, decision-making speed, and communication between technical and non-technical teams.
- **Collaborated cross-functionally** with engineering, research, and field teams, aligning technical execution with strategic objectives under tight timelines.
- **Architected training sessions**, simplifying technical concepts of automation, IoT and problem-solving.

CyborgBD | Founder May 2023- Apr 2024

- Led a multidisciplinary team to develop an AI-powered **Prosthetic Exo-Leg**, securing **1st Runner-Up** at the **International Conference on Energy and Power Engineering 2023**.
- Managed end-to-end **project development**, from concept to funding, enhancing mobility solutions for people with disabilities and strengthening leadership and innovation capabilities.

STEMON BD | Robotics Instructor Apr 2022- Mar 2023

- Conceptualized an Arduino-based course consisting of 10 projects and developed microprocessor-based courses of 20 projects.
- Instructed students for 3 levels of courses consisting of 50+ members where I had to deal with **cross-cultural** people.

BRAC University | Mentor Apr 2019- Aug 2019

- Coordinated the team who launched the "Basic of Robotics for University Students" course.
- Led robotics workshops for 400+ students, improving technical literacy and Arduino adoption, **improved my people management skill.**

Projects

Robotic Exo-Leg | C++ | GitHub Link

- Paper titled "Prosthetic Exo-leg: A Multi-Functional Robotic Leg-suit to Support the Patient with Transfemoral Amputation" has been published in 2023 **IEEE Region 10 Conference (TENCON) (Best paper Award)**

BRACU Mongol Tori | Electronics Team Lead | GitHub Link | The Business Standard

- Chaired the Electronics team for the University Rover Challenge, USA. Achieved a remarkable jump from 11th to 3rd place within 12 months in URC-2020.
- Implemented reverse circuit protection and kill switch to cut off the power for emergency needs and developed the rover 30% more power efficient.

Minesweepers | GitHub Link | BRACU Express

- Participated on the largest and the most impactful robotics research conference worldwide, the IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS 2019), Venetian Macao, Macau, China on humanitarian de-mining, passed first phase with 74 points.

Science Box for Mars | GitHub Link

- Autonomous box will test soil, air; will analyze and give data of other plants to detect the existence of life.

Phoenix-Rover | GitHub Link

- A mini tank like remote controlled robot to provide food or water in rescue mission of earthquake and throw fireball in fire accidents, where reaching for human is tough.

Awards & Accomplishments

- **2nd** in the poster presentation competition with "Prosthetic Exo-leg" at International Conference on Energy and Power Engineering 2022 (ICEPE 2022) (2022)
- **3rd** with BRACU Mongol Tori, in University Rover Challenge, USA, was the electronics team lead of the team. (2020)
- **2nd** in project showcasing segment of Intra-University Robotics Competition with an autonomous Science Box. (2019)
- **3rd** in soccer bot segment, directed the team, in Intra university Robotics Competition. (2019)
- 11th with BRACU Mongol Tori, in University Rover Challenge, USA, built a Mars rover and was a senior member of the team. 3rd in International Rover Challenge (2019, 2018)
- Quarterfinalist with BRACU Expeditor in the International Robotics Competition, in soccer bot segment, led the team, was controller and received full funds from OIC. (2019)
- Semifinalist with BARCU Interceptor 2.0, battle bot segment, as the team leader managed the team and was controller of the bot, at Inter-University Competition by IUT. (2019)
- Government scholarship twice, Cadet Core scholarship once, awarded for students' **academic excellence**. (2009, 2012, 2016)
- Strived 10+ other international and national competitions with LFR, Home automation system, science box, battle bot, soccer bot, etc.

Leadership, Activities & Extracurriculars

Indoor Games Club of BRAC University | General Secretary Jan 2018- Jan 2022

- Organized large-scale indoor tournaments for 700+ participants, demonstrating **exceptional leadership, stakeholder coordination, and project management, organization** skills.

Robotics Club of BRAC University | Senior Executive Jan 2018- Jan 2021

- Directed "Intra- University Robotics Competition" organizing team, almost 500+ students competed in different segments, was one of the largest robotics competitions in Bangladesh, exceled **leadership stakeholders' coordination**.

Skills & Interests

Technical Skills: Eagle, Proteus, Embedded C, C++, Python, Solid works, SQL, AutoCAD, PVsyst.
Soft Skills: Leadership, Detail-Oriented, Project Management, Cross-Functional Collaboration, Teamwork

References

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