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 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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