# 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, Power system, Power system, Computer Programming, Control Systems, Numerical methods, Linear algebra, Mathematics for machine learning and signal processing.

## Experience

**Diligite, ITBI, CUET** | R&D Specialist and Instructor                                                       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 |PCB Designing |** GitHub Link

- 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.

## 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)
- Government scholarship twice, BNCC scholarship once, awarded for students' **academic excellence**.   (2009, 2012, 2016)

## 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.

**Soft Skills:** Leadership, Detail-Oriented, Project Management, Cross-Functional Collaboration, Teamwork

## References

**MD Kamruzzaman Kamrul**

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