

Razu Sarder

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Education

Khulna University

Feb 2023 - Present

Bachelor of Computer Science And Engineering

Khulna, Bangladesh

Research Interests

Natural Language Processing (NLP), Computer Vision, Reinforcement Learning, Ethical AI, AI for Healthcare, Supervised Learning, Unsupervised Learning, Semi-Supervised Learning, Explainable AI (XAI), Autonomous Navigation, Human-Robot Interaction, Robot Perception, Manipulation and Control, Real-Time Systems, Low-Power Design, Firmware Development, IoT Integration, Embedded System, Biomedical Devices, Neural Interfaces, Biosensors, Wearable Technology, BioMEMS (Micro electro mechanical Systems), Digital Design, Analog/Mixed-Signal Design, ASIC Design FPGA Development, System-on-Chip (SoC) Design, VLSI (Very Large Scale Integration), Power and Thermal Management, Signal Integrity, Agile Methodologies, DevOps, Cloud Computing, Software Architecture, Deep Learning, Convolutional Neural Networks (CNNs), Recurrent Neural Networks (RNNs), Generative Adversarial Networks (GANs), Neural Architecture Search, Flight Dynamics and Control, Avionics

Skills

Programming

C, C++, Java, JavaScript, Python

PCB Design

EasyEDA

Software Development:

Coding in Python, Java, C++, Version control systems (Git, GitHub), Testing

Hardware Development:

Circuit design, PCB layout, Soldering, Prototyping, Hardware debugging, Microcontroller programming

Embedded System:

Microcontrollers (Arduino, PIC, ARM Cortex), Arduino IDE, Sensors, Actuators, Communication modules (Bluetooth, Wi-Fi), Real-time system analysis, Firmware development, Hardware-software integration, Low-level programming

Complex Problem-Solving:

Analytical thinking, Scenario planning, Decision-making frameworks, Root cause analysis, Creative thinking

Project Management:

Risk management, Resource allocation, Gantt charts, Project scheduling, Budget management, Stakeholder communication, Agile methodologies

Data Analysis:

Data cleaning, Data visualization, Reporting, Statistical analysis, Predictive modeling, Data mining

International Mobility Management:

Immigration regulations, Cultural awareness, Policy compliance, Employee relocation planning, Global mobility strategy

Chatbot Development:

Natural Language Processing (NLP), Machine learning integration, Conversational design, API integration, User experience design

Internet of Things (IoT):

IoT devices (Raspberry Pi, Arduino), Sensors, Actuators, Communication modules, Sensor data management, Real-time data processing, Protocols, Google Cloud IoT

Presentations:

Microsoft PowerPoint, Canva, Speechwriting, Audience engagement, Visual storytelling, Data visualization, Public speaking, Presentation design

Research & Data Evaluation:

Analytical thinking, Scenario planning, Decision-making frameworks

Microsoft Office Suite:

Microsoft Word, Excel, PowerPoint, Access

Teamwork and Collaboration:

Conflict resolution, Communication, Coordination

Creativity and Innovation:

Design thinking, Brainstorming techniques, Prototyping

Data Analysis & Management:

Data cleaning, Data visualization, Reporting

Control System Design:

System modeling, Feedback loop design, Real-time system analysis

Projects

Terra Trio (Innovative, Sustainable Power Generation System)

[Terra Trio Energy \(website\)](#)

Developed an eco-friendly integrated power generation system called Terra Trio that addresses electricity challenges using IoT technology and full automation. This scalable system leverages natural resources—water, air, and sunlight—to harness kinetic energy from water waves, water flow, wind speed, and solar radiation. It automatically adapts to the most abundant energy source, ensuring maximum efficiency and minimal environmental impact. This approach optimizes energy production, promotes sustainability, and reduces reliance on conventional energy sources.

Mental Health Support Platform

[Mental Health Support Platform \(website\)](#)

I am currently developing an integrated platform designed to support mental well-being. It will feature an AI-Powered Chatbot for personalized guidance, customizable Plans for tailored mental health strategies, and Mood Tracking to help users understand their emotional patterns. The platform will also offer Teletherapy for connecting with licensed therapists, Community Forums for supportive discussions, and Crisis Intervention for immediate help. Additional resources will include a Meditation Library, engaging Gamified Exercises, a BMI Calculator, and Motivational Videos. The Chatbot Voice Assistant tools will further enhance the overall support experience.

YOUCheker (Health Monitoring Mobile App)

[YOUCheker \(App\)](#)

Developed a mobile app for health monitoring that calculates BMI, stamina, and sleep patterns. The app provides insights into users' health status and helps them understand their responses to various health metrics.

Work Experience

Roboment, Dhaka, Bangladesh

(Project Specialist)

November 2023 - Present

Led design, development, and implementation of robotics projects.
Managed multiple projects, ensuring timely and budget-compliant completion.
Conducted workshops and training sessions on robotics.
Collaborated with engineers, educators, and stakeholders.
Utilized project management tools to track progress and mitigate risks.
Developed project documentation and user manuals.

Roboment, Dhaka, Bangladesh

(Project Lead Developer)

Led the design and development of innovative robotics projects from concept to completion.
Oversaw project timelines, budgets, and resource allocation to ensure efficient project delivery.
Coordinated with cross-functional teams, including engineers, educators, and stakeholders, to meet project goals.
Conducted hands-on workshops and training sessions to teach robotics concepts and practical skills.
Implemented and optimized project management tools and methodologies to track progress and mitigate risks.
Developed and maintained comprehensive project documentation, including design documents and user manuals.
Integrated cutting-edge technologies and best practices to drive continuous improvement and innovation.

Awards & Achievements

Awarded as Champion in National Level Hackathon

At the prestigious national hackathon hosted by Northwestern University, our team emerged as champions by designing an innovative renewable and sustainable power generation system. In my role as team leader, I was pivotal in steering our team to this distinguished victory.

Organizational Skills

IshQool Rise 2.0

Campus Ambassador

June 2024 – Present

IshQool is an organization dedicated to providing effective guidelines for IELTS preparation and offering diverse learning opportunities. It supports members with resources and training in video editing, poster design, graphics, and more. As a member, you can develop organizational skills by participating in and managing various educational and creative projects. Ishqool fosters a collaborative environment that enhances both academic and creative abilities.

Khulna University Innovation Club (KUIC)

Member

June 2024 – Present

Khulna University Innovation Club (KUIC) is a vibrant club at Khulna University dedicated to promoting science, technology, and innovation. The club encourages members to explore and apply scientific concepts through projects, workshops, and competitions. It fosters interdisciplinary collaboration and provides opportunities for students to develop organizational and leadership skills.

Bdapps

Campus Ambassador

February 2024 – Present

Bdapps is a platform by Robi Axiata Limited that enables developers and content providers to utilize Robi network features via shared APIs and monetize their efforts. As a Campus Ambassador, I promoted bdapps through workshops and seminars, assisted students with API integration, coordinated with the bdapps team for feedback, and organized marketing campaigns to increase campus engagement. This role enhanced my organizational skills through event planning and project support.

References

- Sajib Chatterjee Faculty member, Computer Science and Engineering Khulna University, Bangladesh
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