# Khandaker Siam Ahmed

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## EDUCATION

**Islamic University of Technology (IUT)** — Jan 2023 – 2027 (Expected)
*B.Sc. in Mechanical Engineering | CGPA: 3.53 / 4.00* — *Gazipur, Bangladesh*
**Awarded OIC Partial Scholarship:** Merit-based grant valued at **USD 14,000**.

**Government Science College** — 2022
*Higher Secondary Certificate (HSC), Science | GPA: 5.00 / 5.00* — *Dhaka, Bangladesh*

## EXPERIENCE

**Short Circuit** — May 2025 – Present
*Co-Founder* — *Dhaka, Bangladesh*
- Established an online electronics platform serving **100+ engineering students**, generating over **BDT 200,000** in revenue within the first quarter.
- Managed supply chain logistics by establishing direct relationships with local wholesale vendors, achieving a **15% profit margin** on components.

**Project Altair (IUT Mars Rover Team)** — Nov 2024 – Present
*Junior Executive, Mechanical & Manufacturing Subteam* — *Gazipur, Bangladesh*
- Spearheaded mechanical design of the rover's chassis and suspension systems, selecting materials to optimize strength-to-weight ratio.
- Validated structural integrity by conducting **FEA static stress analysis** using **SolidWorks Simulation**, contributing to the team securing **18th position globally** at the University Rover Challenge (URC).
- Collaborated on design submissions for the International Rover Design Challenge (IRDC) 2025 and European Rover Challenge (ERC) 2024.

**Project Aqua (IUT Underwater Rover Team)** — Nov 2024 – Present
*Junior Executive, Mechanical Team* — *Gazipur, Bangladesh*
- Executed detailed CAD modeling of underwater vehicle prototypes using **SolidWorks** to ensure precise assembly fitment.
- Created photorealistic renders and mechanism animations using **Blender** for technical presentations and design visualization.
- Played a pivotal role in achieving **2nd Place** at the Underwater Vehicle Design Challenge, IIT Guwahati.

## TECHNICAL PROJECTS

**Automatic Garbage Sorter System** | *Mechatronics & ML Integration* — Academic Project
- Designed a custom mechanical actuation system using **herringbone gears** and **stepper motors** to ensure precise torque transmission for waste sorting.
- Integrated an **ESP32 microcontroller** to drive the mechanical sorter based on classification data from a YOLO-based computer vision model.

**Advanced Line Following Robot** | *Embedded Systems* — Hobbyist Project
- Developed an autonomous robot featuring an OLED display interface, rotary encoder inputs, and an EEPROM-based menu system.
- Implemented PID control algorithms and integrated ultrasonic sensors for high-speed navigation and obstacle avoidance.

## TECHNICAL SKILLS

**Software & Design**: SolidWorks (CSWA Certified), SolidWorks Simulation, Blender, Proteus, Arduino IDE
**Programming**: C, Embedded C, Python
**Core Competencies**: CAD/CAM, FEA Analysis, Mechatronics, Control Systems, Embedded Systems

## ACHIEVEMENTS & CERTIFICATIONS

**Certified SolidWorks Associate (CSWA):** Certification by Dassault Systèmes.

**Champion:** Cezeri Lab Annual Project Competition 2025.

**2nd Place:** Underwater Vehicle Design Competition, IIT Guwahati, India.

**2nd Runners-up:** Auto Sculpt Season 2, organized by IUT Automobile Society.

**Member:** International Association of Engineers (IAENG).