

## # Shamol Chandra Barman - Robotics Portfolio

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### ## 🙋 About Me

I am **Shamol Chandra Barman**, a Mechatronics Engineering graduate from **World University of Bangladesh (2024)** with hands-on experience in **Robotics, Embedded Systems, IoT, and Industrial Automation**. I am passionate about **Energy-Efficient Trajectory Planning, Robotics Simulation, and R&D in Automation**.

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### ## 🛠 Skills

**Robotics & Control Systems:** Python Robotics, ROS2, PyBullet, MATLAB, PLC Automation

**Programming & Embedded Systems:** Python, C/C++, Arduino, STM32, Microcontrollers

**Industrial Automation & IoT:** PLC, SCADA, Sensors, Actuators, IoT Devices

**Tools & Software:** Git, GitHub, SolidWorks, LabVIEW, MATLAB/Simulink, Linux

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### ## 📁 Projects

#### ### 1. Multi-DOF Robotic Arm

- **Description:** Designed a robotic arm with 5 DOF for object manipulation using Python and C++.

- **Key Tech:** Python, ROS2, PyBullet

- **Repository:** [GitHub Link](https://github.com/<YourUsername>/Robotic-Arm)

### ### 2. Obstacle Avoidance Robot

- **Description:** Autonomous robot using ultrasonic sensors to navigate obstacles.
- **Key Tech:** Arduino, C++, Embedded Systems
- **Repository:** [GitHub Link](https://github.com/<YourUsername>/Obstacle-Robot)

### ### 3. Energy-Efficient Trajectory Planning (Research)

- **Description:** Physics-based simulation for optimal trajectory in industrial robot manipulators.
- **Key Tech:** Python, PyBullet, MATLAB
- **Repository:** [GitHub Link](https://github.com/<YourUsername>/Trajectory-Planning)

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## ## 🎓 Education

- **BSc in Mechatronics Engineering** – World University of Bangladesh, 2024

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## ## 💼 Internships & Research

- **EMP Research Project** – Energy & Motion Profiling
- **QC / R&D Internship** – Automation & Robotics Testing
- **Industrial Automation Projects** – PLC-based systems, IoT monitoring

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## ## 📞 Contact

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- **\*\*GitHub:\*\*** [github.com/<YourUsername>](https://github.com/<YourUsername>)

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