Md Zahidul Haque

Dumuria Chanpur, Cumilla, Bangladesh

kowsikzhk@gmail.com
https://zahidulkowsik.github.io/

EDUCATION:

2017 - 2023 **Bachelor of Science in Mechanical Engineering**
Rajshahi University of Engineering and Technology (RUET)

RESEARCH EXPERIENCE:

2023 Review & Economic Analysis of a Solar Powered Water Pumping System for Crop Irrigation

This is a research paper that evaluates the feasibility and performance of a solar powered water pumping system (SPWPS) for irrigation purposes. The paper compares the SPWPS with a conventional diesel powered water pumping system (DPWPS) in terms of technical, environmental, and economic aspects. The paper also proposes a mathematical model to estimate the cost of the SPWPS based on the irrigation requirements and solar radiation data. The paper concludes that the SPWPS is a viable and sustainable alternative to the DPWPS, especially in remote areas where grid electricity is unavailable or unreliable.
Supervisor: **Dr. Mohammad Rofiqul Islam**, Professor, Mechanical Engineering, Rajshahi University of Engineering and Technology

PROFESSIONAL EXPERIENCE:

Feb, 2022 – March, 2022 **Bangladesh Power Development Board (BPDB)**

1-month-long Industrial Attachment in Bangladesh Power Development Board (BPDB), An enterprise of the Ministry of Power, Energy and Mineral Resources, Government of the People's Republic of Bangladesh. Gained detailed knowledge of power generation, transmission, and Company distribution systems. Visited and observed the operation and maintenance of the Barapukuria Coal Mining Limited and the Barapukuria Coal Power Plant in Dinajpur.

PROJECTS:

2019 **Automatic street light system based on Light-Dependent Resistor (LDR):**
Designed and implemented a circuit that uses an LDR and a transistor to control the switching of street lights based on the ambient light intensity. The circuit can save energy and reduce maintenance costs by automatically turning on and off the street lights at the appropriate time. The project involved using Arduino, LED, LDR, resistor, relay, and breadboard

2018 **Design and fabrication of a hydraulic ram pump**
Developed and tested a device that uses the energy of flowing water to pump water to a higher elevation without any external power source. The project involved using PVC pipes, valves, springs, and fittings. The pump can be used for irrigation, domestic water supply, or rural development

2017 **Automatic braking system using fuzzy logic**
Implemented and simulated a system that can automatically apply brakes to a vehicle based on the distance and speed of the obstacle ahead. The project involved using MATLAB, Simulink, and Fuzzy Logic Toolbox. The system can improve road safety, reduce human error, and prevent collisions.

2017 **Solar-powered refrigeration system using adsorption technology**
Designed and constructed a prototype of a refrigeration system that uses solar energy to produce cooling effect. The project involved using activated carbon, methanol, copper tubes, and a solar collector. The system can be used for food preservation, medical applications, or air conditioning.

TECHNICAL SKILLS:

- **Software**: Solidworks, Auto-CAD (2D, 3D), Ansys Workbench, Ansys Fluent, MS Office Tools
- **Programming Languages**: Python, C++

LANGUAGES:

- **Bengali**- Native language
- **English**- Fluent

GRE SCORE

Quantitative Reasoning : 160
Verbal Reasoning : 157
Analytical Writing : 4