

A provocative question in Bangladesh is load shedding. Electricity production cannot fulfil the demand for the current consumption of electricity. In certain places, the supply of power is cut for a certain amount of time. As an engineering professional, it made me realize that my country has an extensive, complicated, and old power structure. The failure of the distribution system is high, and the consumer face schedule load shedding regularly. I am determined to improve this power crisis by restructuring the conventional distribution system to a modern distribution system, which is smart grid technology. For that, I would like to gain insight into basic design concepts from the transformation of solid-state electronics to electrical power management in pursuit of my M.Tech degree in **Electrical Engineering** at the **Indian Institute of Technology Kharagpur**.

From the very start of my bachelor degree, I was drawn to electronics and physical computing courses because, with code, breadboards, and loads of fun components, I can create devices with sensors and outputs can interact with the world. Having gained comprehensive theoretical and applied knowledge in programming, mathematics, operating systems, embedded systems, networking and management of databases in senior semesters, I decided to select my undergraduate research topic, which is titled "Design and VLSI Implementation of High-Performance Face Recognition System." Under the supervision of **Dr. ABM Harun-Ur Rashid**, I proposed a novel hardware architecture of a face-recognition system. I made a database consisting of BRAC University students and used them to train our recognition system using MATLAB. For the hardware implementation, in this project, I have chosen the FPGA based development board. It was because of my relentless struggle and enthusiasm for learning that I made my way to the Dean's Honor Award and then to the Vice Chancellor's Honor Award (twice).

After completing my degree, I served as an associate member of the Institute of Engineers Bangladesh (IEB). As a member of this organization, I attended a seminar entitled "Solving Power Crisis of Bangladesh by Utilizing Renewable Energy." The discussion conducted during this seminar helped me to understand that renewable energy would be one option to solve the power crisis of my country. This was why, after my undergraduate years, I went the extra mile to take a two-year master program in Renewable Energy Technology from the University of Dhaka. The comprehensive course curriculum in my master studies has established my skills with basic knowledge and concepts of carbon emission-free energy. I participated in a project titled "Design and Development of Dust – Level Detecting and Cleaning System of Solar PV system." led by **Dr. Md. Habibur Rahman** to conduct my master's thesis. My research aimed to develop a device that calculated the difference in efficiency due to dust on the solar panel and provided the consumer with a warning signal. My continuous effort earned me the 6th place out of 93 students with a CGPA of 3.81 in the 2019 graduating class.

I began my professional career as a **Trainee Engineer** at Turbo Power Limited, where I have adapted skills in collecting instrumental data, design reviews and data analysis. I was required to coordinate a project focused on national level PoA (Program of Activities) to reduce air pollution

and facilitate the abatement of greenhouse gas (GHG) emissions in the brick manufacturing sector in Bangladesh during my job as **Assistant Engineer**. My exposure to this work has inspired me to contribute to team success through hard work and attention to excellent problem-solving skills. The fact that there is more to learn, I am persuaded that post graduate study in **Electrical Engineering** will allow me to investigate the commercial maturation of various modern technologies.

I visited the website of Indian Institute of Technology Kharagpur during my quest for graduate studies and learned about the scope of work, services, faculty, and usual projects. I envisioned that modules to be covered are highly indispensable to my academic record. So, I firmly believe that the **Electrical Engineering** program will give me immense opportunities to get guidance with the most accomplished people in this field on research issues, such as **Prof. Amit Patra, Prof. Aurobinda Routray, Prof. Ashok Kumar Pradhan, Prof. Prabodh Bajpai, Prof. Dipankar Debnath**. Besides, studying at the most technically advanced institute in India would help me achieve an academic qualification that will be recognized and appreciated worldwide.