


# Sohag Kumar Saha

Cookeville, Tennessee ♦ USA

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## CAREER SUMMARY

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Received 6+ years of professional work experience in the operation & maintenance of power generation and distribution utilities (specifically in grid sub-stations). Currently, continuing my Ph.D. in Electrical Engineering at Tennessee Tech University, TN, USA, and looking for internship opportunities in the relevant fields of Power Systems: Smart Grids, Sub-station Design, Protection & Control, Integration of PV & Battery Energy Storage Systems, and Energy Optimization.

## EDUCATION

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**Ph.D. in Electrical & Computer Engineering** Aug. 2021 - Present  
Tennessee Technological University, Cookeville, TN, USA; CGPA : **3.72**/4.00

**B.Sc. in Electrical & Electronics Engineering** Mar. 2009 - Dec. 2013  
Pabna University of Science & Technology, Pabna, Bangladesh; CGPA : **3.87**/4.00

## SKILLS

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MATLAB, Typhoon HIL, OpenDSS, Python Coding, LTSpice, PLECS, Ansys Electromagnetics, Latex, MS Office etc.

## EXPERIENCES

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**Graduate Research Assistant (GRA) — ECE, Tennessee Tech University (TTU)** TN, USA  
**Center for Energy Systems Research (CESR)** Aug. 2021 - Till Date

- Conducting research on Renewable Energy, Smart Grid, Economic Load Dispatch, Optimization, & Energy Forecasting
- Load Levelling by Peak Shaving and Valley Filling using Typhoon HIL and Python/MATLAB Programming.
- Determination of PV Hosting Capacity using OpenDSS and Time Series Analysis.
- Economic Load Dispatching and Optimization using Meta-Heuristic algorithm like Particle Swarm Optimization (PSO).

**Sub-Divisional Engineer — Ashuganj Power Station Company Ltd. (APSCL)** Brahmanbaria, Bangladesh  
**Sub-station Construction, Operation and Maintenance Division** Aug. 2016 - Aug. 2021

- Installation, Testing and Commissioning Work of Switch-gear and Protection Equipment.
- Electrical maintenance, trouble shooting and fault analysis of High Voltage (33kV, 132kV & 230 kV) Grid Sub-station
- Ensure Efficient Transmission of Electrical Power with Reliability & conducting internships and technical training sessions

**Assistant Engineer — Bangladesh Rural Electrification Board (BREB)** Dhaka, Bangladesh  
**Power Distribution Network Operation, Control and Maintenance** Aug. 2015 - Aug. 2016

- Operation & maintenance of distribution system for rural electrification in Bangladesh including construction of distribution lines & sub-stations, connections of local users to the distribution grids.
- Provide uninterruptible electricity to consumers with proper voltage, current, frequency and power factor
- Reduction of system losses in distribution system with parametric analysis
- Research and Development to increase system reliability and improving the performance of distribution grids

## COMPLETED PROJECTS

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- Anomaly Detection in Smart Grid Systems based on Load Consumption & Potential Solutions using Metaheuristic Algorithm
- Design and Construction of 3-Phase Transformers, AC Motor, BLDC Motor, & Wireless Power Transfer (WPT) Systems
- Design, Installation, Testing, & Commissioning of 3-phase, 300 MVA, 232kV/132 kV Auto Transformer at Ashuganj Grid
- Installation, Testing, and Commissioning of 132 kV and 230 kV SF-6 Circuit Breakers in Ashuganj Grid with all protections
- Design, Installation, Testing, and Commissioning of 10/14 MVA, 33/11 kV Distribution Sub-station under BREB, Bangladesh

## ACADEMIC & PROFESSIONAL AWARDS + TECHNICAL MEMBERSHIP

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- Bangladesh-Sweden Trust Fund Scholarship 2022 as Travel Grant from Bangladesh to USA to conduct Ph.D. degree
- Undergraduate Merit Scholarship in all academic terms and Graduate Assistantship Award in ongoing PhD program
- IEEE Student Member of Region: R3 -Southeastern USA, Section: Central Tennessee; Membership Number: 98299167