Ashique Anan Abir

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Education

University of Asia Pacific
74/A Green Road, Dhaka 1215

Bachelor of Science in Electrical and Electronics Engineering — **2018**

Major Courses: Electrical Circuits I, Electrical Circuits II, Electronic Circuits I, Electrical Machines I, Electronic Circuits II, Electrical Machines II, Digital Electronics, Electrical Design and Drafting Sessional, Power System Analysis I, Signals and Linear Systems, Electromagnetic Fields and Waves, Electrical Engineering Materials, Communication Engineering Fundamentals, Digital Signal Processing I, Microprocessor and Interfacing, Control Systems I, Energy Conversion and Special Machines, Power Station Engineering, VLSI Design I, Numerical Methods, Solid State Devices, Computer Networking, Opto-electronics, Power Electronics.

Minor Courses: Differential and Integral Calculus, Physics I, Physics II, Differential Equations and Matrix, Computer Programming, Coordinate Geometry and Vector Analysis, Fundamentals of Mechanical Engineering, Transformations and Partial Differential Equation, Probability and Statistics; Complex Variable and Harmonics, Industrial and Operational Management.

Cumulative Grade Point Average: 3.60

Research Publications

1. ***A Single-Phase Cascaded H-Bridge Multilevel Inverter with Reduced Switching Devices and Harmonics***

   Authors: A. Anan, T. K. Chakraborty and K. Sultan Mahmood

2. ***Generation of 13-Level Output Voltage from Single-Phase Multilevel Inverter Consisting of Cascaded Three H-Bridge Units***

   Authors: T. K. Chakraborty, A. Anan, S. H. Rakib, M. I. Prodhan, M. M. Kamal and M. Mahabubunnabi.

3. ***Experimental Investigation on Single-Phase Multilevel Inverter for Generating 21-Level Output Voltage Using Four H-Bridge Units***

   Authors: T. K. Chakraborty, A. Anan and S. H. Rakib

4. ***Experimental and Simulation Study of Harmonics in Asymmetric Multilevel Inverter Fabricated Using Four Units***

   Authors: A. A. Abir, M. M. Kamal, M. I. Prodhan and T. K. Chakraborty

5. ***An Experimental Study of Cascaded H-Bridge Multilevel Inverter for Obtaining Multiple Voltage Waveforms Containing Different Number of Levels***

   Authors: A. A. Abir, T. K. Chakraborty, K. S. Mahmood

Undergraduate Thesis

Experiment on Multilevel Inverter

Design and development of microcontroller based multilevel inverter and obtaining several levels of multileveled sinusoidal wave along with improving its performance.

Work Experience

Research Assistant - Research & Development ——— **Sep 2022 – Jul 2023**

Giga Tech Limited, BEXIMCO Group

Worked on the development and testing of backend embedded systems for a prototype mechanical ventilator, utilizing a TM4C Texas Instruments microcontroller. Demonstrated strong problem-solving abilities by regularly tackling complex project-related issues. Conducted comprehensive testing of components and sensors to ensure optimal performance. Enhanced team communication and efficiency by contributing to the documentation of workflow processes.

Trainee Engineer – Operation & Maintenance ——— **Sep 2018 – Aug 2019**

United Mymensigh Power Limited & United Jamalpur Power Limited, 315MW Combined, (UMPL & UJPL), United Group

Commissioned and monitored multiple boilers and turbines using the SCADA system, while conducting regular inspections of all boiler and turbine areas. Operated a range of systems and equipment, managed shift manpower, work systems, and safety protocols. Responded to emergency situations and performed tasks assigned by supervisors. Handled the operation and synchronization of turbines, maintained daily reports and documentation for assigned shifts, and operated safety devices during incidents.

Projects

Advanced Data Analysis and Machine Learning Exploration ——— **Aug 2023 – Present**

This ongoing project focuses on the in-depth exploration and manipulation of diverse datasets. Key activities include extensive data cleaning and preparation, applying various machine learning algorithms to develop predictive models, and creating compelling visual narratives to communicate insights effectively. Future plans involve delving into deep learning techniques, exploring AI-accelerated automation, and implementing embedded AI/ML operations for practical applications in real-world scenarios. My objective is to gain hands-on experience in AI and machine learning, particularly in automation and predictive analytics.

Award and Accomplishments

I received the **Dean's Award** for outstanding performance three times during my Bachelor's studies.

Skills

Programing language : C++, Assembly, Python (Scikit-learn, NumPy, Matplotlib, Pandas)

Software : MATLAB, Multisim