Abdullah Al Shadi

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Research interests

- Semiconductor Devices
- Spintronic Devices
- 2D Materials
- Nanotechnology
- Photonics
- Energy Harvesting
- Solar Cells
- Renewable Energy

Education

Khulna University of Engineering & Technology, Bangladesh — **Khulna, Bangladesh**
BSc. in Electrical and Electronic Engineering — Jan. 2019– Mar. 2024
CGPA: 3.21 (out of 4)

Publications

Journals

- Muneef Hasan, et al."A comprehensive analysis of structural, electronic, optical, mechanical, thermodynamic and thermoelectric properties of direct band gap Sr3BF3 (B = As, Sb) photovoltaic compounds: DFT-GGA and mBJ approach", *Inorganic Chemistry Communications, Volume 171*, January 2025, 113607. ***(IF :4.4)*** (View)
- "Comprehensive Investigation of Strain-Induced Transformations in Lead- Free FrSnA 3 (A = Cl, Br, and I) Perovskite: Unraveling Structural, Electronic, Optical, and Mechanical Properties through DFT Calculations" ,*2024,* ***[Manuscript under review].***

Conferences

- Abdullah Al Shadi, et al. "Investigation of the impacts of different parameters of Buffer Carbon Trapping in AlGaN/GaN HEMTs", *4th International Conference on Electrical, Computer and Communication Engineering (ECCE),* 13-15 February 2025.
- Bijoy Sorker, et al. "First-Principles Investigation of the Structural, Electronic, Mechanical, and Optical Properties of A3NBr3 (A = Ca, Sr, and Ba)", *4th International Conference on Electrical, Computer and Communication Engineering (ECCE),* 13-15 February 2025.

Projects

- **DC Motor Control using Full Bridge Power Converter for Locomotive Train Machine**
  - *The aim of this project was to implement a dc motor driven vehicle system utilizing power electronics-based H-bridge converter which plays a crucial role in the motor control system of the vehicle, enabling precise and efficient control over the motor's speed and direction.*
  - *This project reveals the integration of power electronics and microcontroller-based control systems in a practical application, underscoring the advancement of vehicle technology.*
- **IOT based voice controlled smart home automation**
  - *The main aim of this project was to control different home appliances by using voice commands via voice assistant.*
  - *By allowing users to control their homes with simple voice commands, voice-controlled home automation systems eliminate the need for users to physically interact with the equipment they use to control the environment.*
- **Designing a Single Phase, Shell Type Transformer**
  - *This was a group project. We have practically implemented our knowledge of building a transformer. Our transformer was a single-phase transformer of shell type. And the required rating was 220V/12V, 400VA. We have got the almost similar configuration as mentioned to the requirements.*
- **Flat Wiring Design with Cost Estimation using AutoCAD software**
  - *In this project we have designed a floor plan ourself. The conduit wiring was done based on the floor plan with the help of AutoCAD. We have calculated the required illumination and designed the electrical appliances based on it. We kept minimal costing for the overall wiring and it was around BDT 82298 as per the floor plan and requirements.*

- **Autonomous Line Follower Robot**
  - *It's an Arduino based project. The robot can follow a given path by avoiding all the barriers and reaching the final destination. It is mainly a competition-based project to reach the final destination as soon as possible.*

Software Skills

- ***Programming Languages:*** Python, C, C++, MATLAB
- ***Hardware:*** PLC, Arduino
- ***Other Skills:*** Circuit Design, PCB Layout, Signal Processing, Embedded Systems
- ***Designing Tools:*** Adobe Illustrator
- ***Software and Tools:*** AutoCAD, Simulink, Proteus, TCAD, PSpice, KiCad, SCAPS
- ***Web Technologies:*** HTML, CSS
- ***Office Tools:*** Word, Excel, PowerPoint

Experiences

- **Organizing Secretary,** EEE Makers Hub — Jan. 2023– Mar. 2024
  - *Organized technical events, workshops, and seminars to promote skill development.*
  - *Led technical initiatives, demonstrating strong organizational and leadership skills.*
  - *Established connections with industry professionals for potential collaborations and opportunities.*

Awards and Achievements

- Education Board Scholarship for a good result in Higher Secondary Education — 2018
- Regional Champion of National Creative Talent Hunt (Science) — 2015
- Education Board Scholarship for a good result in JSC Examination — 2013

Certifications

- 30 Days Masterclass on PLC — November, 2024
- MATLAB Programming for Engineers and Scientists — October, 2022
- Mastering Programming with MATLAB — June, 2022
- Introduction to Programming with MATLAB — May, 2022
- Python For Beginners Course In-Depth — June, 2022

Language skills

- English (IELTS Band -7)
- Bangla (Native)

Reference

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