



Muhammad Hassaan

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ABOUT ME

Electrical Engineer with a strong background in Power Systems, Control Engineering, and Power Electronics. Experienced in circuit design, hardware troubleshooting, and system analysis with practical projects such as quadcopter development and DC-DC converter design. Seeking opportunities to apply technical expertise and pursue advanced research in automotive and renewable energy solutions.

WORK EXPERIENCE

 **H&I MOTOR SOLUTION** – WAH CANTT, PAKISTAN

PANEL DESIGN ENGINEER – 01/10/2022 – CURRENT

- Designed and developed electrical control panels for three-phase motor starter applications.
- Prepared detailed circuit diagrams, wiring layouts, and component selection based on project requirements.
- Implemented protection, control, and automation features to ensure system reliability and safety compliance.
- Provided customized solutions for industrial clients, including troubleshooting and optimization of motor starter systems.
- Delivered complete technical documentation and support for installation and maintenance.

 **FUEL CONSULTS REFRACTORY SPECIALIST** – WAH CANTT, PAKISTAN

ELECTRICAL ENGINEERING INTERN – 07/2021 – 08/2021

- Assisted in electrical system maintenance and troubleshooting for industrial setups.
- Observed and supported the installation and inspection of refractory-related equipment.
- Learned practical applications of electrical safety standards and industrial power distribution.
- Collaborated with engineers to document technical findings and maintenance reports.

EDUCATION AND TRAINING

25/09/2018 – 15/09/2022 Wah Cantt, Pakistan

BACHELOR OF SCIENCE IN ELECTRICAL ENGINEERING COMSATS University Islamabad

Power Systems Analysis, Control Systems, Power Electronics, Electrical Machines, Renewable Energy, and Circuit Design.

Website <https://www.comsats.edu.pk/> | **Field of study** Electricity and energy | **Final grade** 3.26/4.00 | **Level in EQF** EQF level 6 |

Number of credits 136

SKILLS

Programming & Software

Dev C++ | NetBeans JAVA | LaTeX | PLC / Ladder Logic

Embedded Systems & Controllers

Arduino & Arduino IDE | LVSIM-EMS (LabVolt) | DJI NAZA-M Lite Assistant



Software & Simulation Tools

Matlab & Simulink | Keil µVision | AutoCAD | Arduino IDE | Proteus Design Suite 8.10 | NI-Multisim | LVDEC EMS (Lab-Volt) | Logix pro | High Speed PCB Design/Development using Altium Designer

Technical Expertise

Electrical circuit design | Power systems analysis | Power electronics | Control systems | Renewable Energy Systems

PROJECTS

10/2021 – 04/2022

Design of a Quadcopter to Inspect the Power Transmission Lines

- Developed a quadcopter equipped with a camera system for high-voltage transmission line monitoring, reducing inspection risks and improving efficiency.
- Designed and integrated control systems, power distribution modules, and sensors to ensure flight stability and reliable data acquisition.
- For full project details click here: [Quadcopter for Power Line Inspection | Muhammad Hassaan – Electrical Engineer](#)

11/2021 – 02/2022

DC-DC Boost Converter

- Designed and implemented a boost converter to step up DC voltage with adjustable output
- Ensured efficient power conversion suitable for various electronic applications
- Applied principles of power electronics and circuit design for practical implementation and testing
- For full project details click here: [DC-DC Boost Converter using LM2577-ADJ | Muhammad Hassaan – Electrical Engineer](#)

10/2019 – 12/2019

Temperature-Controlled DC Fan using Thermistor

- Designed and developed a temperature-controlled cooling system utilizing a thermistor sensor and LM741 operational amplifier
- Implemented automatic fan speed regulation based on ambient temperature variations
- Demonstrated practical application of analog electronics, sensor interfacing, and feedback control systems
- For full project details click here: [Temperature-Controlled DC Fan using Thermistor & LM741 | Muhammad Hassaan – Electrical Engineer](#)

02/2019 – 04/2019

Dual Dice Display using BCD Converter & 7-Segment Display

- Designed and implemented a digital dice simulator using BCD counters and 7-segment displays
- Applied digital logic design and hardware implementation for generating and displaying random dice values
- Gained practical experience in sequential circuits, display interfacing, and digital system testing
- For full project details click here: [Dual Dice Circuit using BCD Converter & 7-Segment Display | Muhammad Hassaan – Electrical Engineer](#)

CONFERENCES AND SEMINARS

Potential of Hydrogen as an Energy Source for Industry in Pakistan – Pakistan Engineering Council (PEC), 2025

Digitalization of Electricity Grids: Smart Metering and Energy Monitoring in Pakistan – Pakistan Engineering Council (PEC), 2025

The Role of Pumped Storage Hydropower in Advancing Energy Transition in Pakistan – Pakistan Engineering Council (PEC), 2025



LANGUAGE SKILLS

Mother tongue(s): **URDU**

Other language(s):

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken production	Spoken interaction	
ENGLISH	C1	C2	B2	B2	C1

Levels: A1 and A2: Basic user; B1 and B2: Independent user; C1 and C2: Proficient user

HONOURS AND AWARDS

Registered Engineer – Pakistan Engineering Council (PEC)

Acknowledged by the Government of Pakistan, ensuring professional recognition and compliance with national engineering standards

7th Semester Academic Excellence – COMSATS University Islamabad

Secured 3rd rank in 7th semester of Bachelor of Science in Electrical Engineering

RESEARCH INTEREST

Renewable & Sustainable Energy

Advanced Automotive Systems

Power Systems & Smart Grids