

# Ahsan Nadeem

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## RESEARCH INTERESTS

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- MPPT algorithm for photovoltaic system
- Fault Diagnosis in PV system
- Sliding Mode Control Applications in PV system
- Power electronics

## PUBLICATIONS

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### • JOURNALS

- **A. Nadeem**, H. A. Sher, A. F. Murtaza and Nisar Ahmed "Online current-sensorless estimator for PV open circuit voltage and short circuit current," in *Solar Energy, Elsevier*, vol. 213, pp. 198-210, 2021. **(IF=5.74)**
- **A. Nadeem**, H. A. Sher and A. F. Murtaza, "Online fractional open-circuit voltage maximum output power algorithm for photovoltaic modules," in *IET Renewable Power Generation*, vol. 14, no. 2, pp. 188-198, 2019. **(IF=3.9)**
- **A. Nadeem**, "Performance evaluation of online open-circuit voltage estimation method for photovoltaic system" in *SN Applied Sciences, Springer*, Vol. 12, 2020. **(Sole Author Paper)**
- **A. Nadeem** and A. Hussain "A comprehensive review of global maximum power point tracking algorithms for photovoltaic systems". *Energy Systems, Springer*, pp.1-42, 2021. **(Review Paper)**
- **A. Nadeem**, H. A. Sher, A. F. Murtaza and Nisar Ahmed "A GMPPT algorithm based on load line analysis using an online open circuit voltage measurement of photovoltaic system" **(Under Review in International Journal of Electrical Power and Energy Systems, Elsevier, IF=4.6)**
- **A. Nadeem**, H. A. Sher, A. F. Murtaza and Nisar Ahmed "Inductor current-sensorless integral sliding mode controller (ISMC) based GMPPT algorithm for photovoltaic system" **(Under Review in Control Engineering Practice, Elsevier, IF=3.6)**

### • CONFERENCES

- **A. Nadeem**, Sher, H. and Murtaza, A., An online fractional open circuit voltage maximum output power algorithm for photovoltaic modules based on sliding mode control. In 2020 *International Symposium on Recent Advances in Electrical Engineering and Computer Sciences, IEEE*. **(Published)**
- Jawad, M., Qureshi, M.B., **A. Nadeem**, Ali, S.M., Shabbir, N. and Rafiq, M.N., 2018, May. Bi-Directional Nano Grid Design for Organizations with Plug-In Electric Vehicle Charging at Workplace. In *2018 IEEE International Conference on Electro/Information Technology (EIT)* (pp. 0357-0361). **IEEE. (Published)**
- **A. Nadeem**, Rafiq, M.N., Qureshi, M.B. and Jawad, M., 2017, December. Joint Power Management of Telecom Exchanges and Electric Vehicles Using Hybrid AC-DC Microgrid. In *2017 International Conference on Frontiers of Information Technology (FIT)* (pp. 127-132). **IEEE. (Published)**

## AWARDS AND ACHIEVEMENTS

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- Awarded fully funded graduate scholarship for Ph.D. Electronic Engineering at GIK Institute, Topi, Pakistan.
- Awarded Dean Honor Role for securing CGPA 3.61 in course work in Ph.D.
- Securing A+ grade in F.Sc.

- Securing A+ grade and 3<sup>rd</sup> position in school in matric.

## PROFESSIONAL EXPERIENCE

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### Working as a Lab Engineer at GIK Institute

Jan 2018 – Jan 2021

#### LAB(s) Instructed

- Linear circuit analysis (EE211L).
- Electronics-1 (EE221L).
- Power Electronics (EE434L)

### Worked as Management Associate at Pakistan Telecommunication Company

Apr 2016 - Apr 2017

- Technical Engineer

### Internship at Orient Energy System

Jan 2014 - Mar 2014

- Worked in Operation and Maintenance section

## EDUCATION

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### Ph.D. Electronic Engineering (Power Electronics),

Ghulam Ishaq Khan Institute of Engineering Sciences and Technology, Pakistan.

2018 - Present

- CGPA: 3.61/4. (With Honors)
- Status: Thesis Evaluation
- Thesis Topic: Development of efficient MPPT algorithms for photovoltaic applications

### MS Electrical Engineering (Power),

COMSATS Institute of Information Technology, Lahore, Pakistan.

2015 - 2017

- CGPA: 3.55/4.
- Status: Completed
- Thesis Topic: To Design Hybrid Power AC-DC Droop Controller for Telecom Exchange and Electric Vehicles

### B.Sc. Electrical Engineering (Power),

University of Engineering and Technology Lahore, Pakistan.

2011 - 2015

- CGPA: 2.78/4
- Status: Completed
- Specialization: Electrical Power system

### F.Sc. Pre-Engineering (HSSC),

Govt. College of Science Wahdat Road, Lahore, Pakistan

2009 - 2011

- Obtained Marks/Percentage: (988/1100), 90%
- Grade: A+

### Matriculation (SSC),

Govt. High School Township, Lahore, Pakistan

2007 - 2009

- Obtained Marks/Percentage: (935/1050), 89.04%
- Grade: A+

## PROJECTS

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### Final Year Project

- Energy metering with theft detection

### Semester Projects

- Variable Power Supply (220v ac to 0-30v Dc)
- Audio amplifier
- ALU (Arithmetic logic unit)
- Line follower Robot
- Buck, Boost, Buck-Boost and Cuk Converter

## WORKSHOPS ATTENDED

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### Attended one day Continuing Professional Development (CPD) courses on:

- Smart grid.
- Latex.
- How to write technical research paper.
- Electrical Safety and Prevention of electrical fires.

## PROFESSIONAL CERTIFICATES

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- PLC Training on SIMENS S-1200 kit

## SKILLS

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### Programming

- C++, Assembly language, C language, Ladder logic.

### Software

- Matlab, Lab View, Multisim, Proteus, Pspice, Latex, Origin Pro and Microsoft Office.

## REFERENCES

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### Dr. Muhammad Jawad

Assistant Professor

Faculty of Electrical Engineering, COMSATS Institute of Information Technology, Lahore, Pakistan

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### Dr. Mirza Tariq Humayun

Associate Professor

Faculty of Electrical Engineering, COMSATS Institute of Information Technology, Lahore, Pakistan

Email: [mhamayun@ciitlahore.edu.pk](mailto:mhamayun@ciitlahore.edu.pk)

### Dr. Kashif Imran

Assistant Professor & Dean

Department of Energy System Engineering, NUST, Islamabad, Pakistan

Email: [kashifimran@uspcase.nust.edu.pk](mailto:kashifimran@uspcase.nust.edu.pk)

### Dr. Hadeed Ahmed Sher

Assistant Professor

Faculty of Electrical Engineering, Ghulam Ishaq Khan Institute of Engineering Sciences and Technology, Swabi, Pakistan

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### Dr. Ali Faisal Murtaza

Associate Professor & Research Director

Faculty of Electrical Engineering, University of Central Punjab, Lahore, Pakistan

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