Ahsan Nadeem

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RESEARCH INTERESTS

- MPPT algorithms for photovoltaic system
- Fault diagnosis in PV system
- Power electronics
- Sliding Mode Control applications in power converters

PUBLICATIONS

- **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, Elseveir***, vol. 213, pp. 198-210, 2021. **(IF=7.2)**
  - **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 "Inductor current-sensorless integral sliding mode controller (ISMC) based GMPPT algorithm for photovoltaic system" **(Major Revision in *Transactions of the Institute of Measurement and Control*)**
  - **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 Numerical Modelling, Wiley*)**

- **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

- 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 3rd position in school in matric.

EDUCATION

Ph.D. Electronic Engineering (Power Electronics),

Ghulam Ishaq Khan Institute of Engineering Sciences and Technology, Pakistan. 2018 - 2022

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

M.Sc. 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+

REVIEWER AND EDITORIAL ROLE

Reviewer

- IET Renewable Power Generation
- IET Energy Systems Integration
- Transactions of the Institute of Measurement and Control
- International Journal of Electronics

PROFESSIONAL EXPERIENCE

Worked 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

PROJECTS

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

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

- PLC Training on SIMENS S-1200 kit

SKILLS

Programming

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

Software

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

REFERENCES

Prof. Dr. Muhammad Akbar
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Faculty of Electrical Engineering, GIK Institute, Swabi, Pakistan
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Prof. Dr. Nisar Ahmed
Professor & Former Dean
Faculty of Electrical Engineering, GIK Institute, Swabi, Pakistan
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Dr. Muhammad Jawad
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Dr. Mirza Tariq Humayun
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