

Hasnain Ahmad, Ph.D.

Senior Member, IEEE

Postdoctoral Researcher | Electrical Engineer

Interdisciplinary Research Center for Sustainable Energy Systems (IRC-SES), KFUPM, Dhahran, Saudi Arabia

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Professional Profile

Researcher specializing in AI-driven cybersecurity, anomaly detection, resilient control, and renewable-energy integration in cyber-physical power systems. Experience spanning academic research, university teaching, industrial engineering, and postgraduate research supervision. Currently conducting interdisciplinary sustainable-energy research at King Fahd University of Petroleum & Minerals (KFUPM).

Research Expertise

Cybersecurity: False-data injection attacks, intrusion/anomaly detection, industrial control systems, smart-grid security.

Intelligent Energy Systems: AI/machine learning for power systems, distributed control, smart grids, renewable integration, digital twins, networked control systems.

Education

PhD, Electrical Engineering	2025
Pakistan Institute of Engineering and Applied Sciences (PIEAS), Islamabad, Pakistan	
MEng, Power and Control	2019
University of Central Punjab, Lahore, Pakistan	
BEng, Electrical Power Engineering	2013
The Islamia University of Bahawalpur, Pakistan	

Selected Professional Experience

Postdoctoral Researcher	Sep 2025–Present
IRC-SES, King Fahd University of Petroleum & Minerals, Saudi Arabia	
Assistant Manager, Trainings	Sep 2024–Sep 2025
Harbin Electric International, 1180 MW Quaid-e-Azam Thermal Power Plant, Pakistan	
Visiting Research Scholar	Feb 2024–Sep 2024
King Fahd University of Petroleum & Minerals, Saudi Arabia	
Senior Design Engineer	Nov 2022–Feb 2024
National Institute of Electronics, Ministry of Science & Technology, Pakistan	
Lecturer	Feb 2016–Feb 2021
Qarshi University, Lahore, Pakistan	

Selected Research Publications

- **H. Ahmad et al.**, “AI-enabled framework for anomaly detection in power distribution networks under false data injection attacks,” *Artificial Intelligence Review*, vol. 58, article 355, 2025.
- **H. Ahmad et al.**, “Industrial network intrusion detection using a multilayer perceptron: Experimental evaluation on the Tennessee Eastman process,” *Expert Systems with Applications*, 2025.
- **H. Ahmad et al.**, “AI-based approach for detecting FDI attacks in load frequency control for centralized multi-area power systems,” *Computers & Electrical Engineering*, vol. 123, article 110060, 2025.

Academic Highlights & Recognition

- **Research impact:** 563 Google Scholar citations; h-index 13; i10-index 15 (as reported in source CV).
- **Supervision:** 3 MS and 3 BS students supervised/co-supervised.
- **Honors:** Best Poster Award (2025); PIEAS PhD Fellowship, National Center for Cybersecurity; HEC International Research Support Initiative Program fellowship.
- **Technical skills:** MATLAB, Python, C++, PLC/SCADA tools, Wireshark, PowerWorld, LTspice.