➢ Personal Information

Name: Dr. Hammad Alnuman
Nationality: Saudi
Email: hhalnuman@ju.edu.sa

➢ Biography

Hammad is currently an assistant professor in Jouf University who received his B.Eng degree in electrical power systems from Jouf University, KSA in 2012, the M.Sc degree in electrical and computer engineering from Southern Illinois University, USA in 2014, and the Ph.D degree in electronic and electrical engineering from the University of Sheffield, UK in 2021. His research interests include train simulation, energy efficiency in railway operation, railways operation and control, power system stability analysis and control, in addition to microgrid stability and control, power quality analysis and optimisation of electric railway power systems, and electrical hybrid energy storage for integrated energy applications including conventional and renewable energy systems.

➢ Education:

College	Major	Degree	GPA	Year
Jouf University (KSA)	Electrical Engineering—Electrical Power	Bachelor	4.77/5	2012
Southern Illinois University (USA)	Electrical and Computer Engineering	Master of Science	4.78/5	2014
The University of Sheffield (UK)	Electronic and Electrical Engineering—Electric Railways	Ph.D	NA	2021

➢ Languages:

Arabic: Native Language.
English: Fluent.

➢ Skills:

- Matlab Programming
- NI LabVIEW Programming
- C++ Language Programming
- Programmable Logic Controller (PLC) Programming
- Simulation of Traction Power Supply Systems
- Data Analysis
- Organising Events

- Public Speaking

➢ Accomplishments:

1. Best presenter award of the year 2018 in the Electronic and Electrical Engineering Department at the University of Sheffield.
2. Best presenter award of the year 2019 in the Electronic and Electrical Engineering Department at the University of Sheffield.
3. Award of best researcher communicator of the Year 2019 highly commended at the University of Sheffield.
4. Hammad's Ph.D project related to electric railways was selected within 40 projects across the country of Saudi Arabia to join the first phase of the Makkah Innovation Initiative Program in 2019. The competition was organised by King Abdullah University of Science and Technology (KAUST) in partnership with the Principality of Makkah's Cultural Forum.
5. Being a research member of the research team in CREESA who worked on TransEnergy project that received 1.5 million pound from the UK government to improve the energy efficiency of the London Underground.
6. Second place in al-dhahiya breakthrough marathon organized by Jouf University in 2021.
7. Third place in al-dhahiya breakthrough marathon organized by Emarat Al-Jouf Region in 2022.
8. Third place in Jouf University Running Race organized during celebrations for the 92nd National Day in 2022.
9. Third place in Lake Voluntary Forum Running Race organized during celebrations for the 2022 National Voluntary Day.
10. Third place in best environmental initiatives competition that was organized by Ministry of Environment, Water and Agriculture in Al-Jouf Branch.
11. Completion of the course Life Ambassador First-Aid program.
12. The findings yielded by my research have resulted in multiple articles, as outlined below:
    - T. Kandil and H. Alnuman, "Study of ROCOF relay suitability for micro grid protection," in 18th Mediterranean Electrotechnical Conference (MELECON), Lemesos, Cyprus, 2016.
    - H. Alnuman, D. Gladwin and M. Foster, "Development of an electrical model for multiple trains running on a DC 4th rail track," in IEEE International Conference on Environment and Electrical Engineering and IEEE Industrial and Commercial Power Systems Europe (EEEIC / I&CPS Europe), Palermo, Italy, 2018.
    - H. Alnuman and D. Gladwin, "Energy storage application into a double DC electric railway," Energy Procedia, vol. 151, pp. 12−16, Oct 2018.
    - H. Alnuman, D. Gladwin and M. Foster, "Electrical modelling of a DC railway system with multiple trains," Energies, vol. 11, no. 11, pp. 3211−3231, Oct 2018.
    - H. Alnuman, D. Gladwin and M. Foster, "Novel control method for improving energy efficiency of DC electric railways," in IEEE 15th International Conference on Control and Automation (ICCA), Edinburgh, Scotland, 2019.
    - H. Alnuman, D. Gladwin, M. Foster and T. Fantham, "Adaptive control method to manage SOC for energy storage in DC electric railways," in IECON 2019 – 45th Annual Conference of the IEEE Industrial Electronics Society, Lisbon, Portugal.
    - H. Alnuman, D. Gladwin, M. Foster, and E. Ahmed "Enhancing energy management of a stationary energy storage system in a DC electric railway using fuzzy logic control," International Journal of Electrical Power & Energy Systems, vol. 142, Nov 2022.
    - E. Ahmed, M. Aly, M. Mostafa, H. Rezk, H. Alnuman and W. Alhosaini "Optimized model parameters extraction method for bifacial photovoltaic panels based on lshade algorithm," Energy Reports, Apr 2022.
    - A. Amin, M. Ebeed, L. Nasrat, M. Aly, E. Ahmed, E. Mohamed, H. Alnuman, and A. Mohamed "Techno-economic evaluation of optimal integration of pv based dg with

dstatcom functionality with solar irradiance and loading variations," Mathematics, vol. 10, no. 14, Jul 2022.

- H. Alnuman "Small signal stability analysis of a microgrid in grid-connected mode," Sustainability, vol. 14, no. 15, Jul 2022.
- H. Alnuman, D. Gladwin, M. Foster, E. Ahmed, M. Aly, and A. Alshahir "Electrical modelling of a metro system," Electric Power Systems Research, vol. 213, Dec 2022.
- E. Ahmed, A. Selim, E. Mohamed, M. Aly, H. Alnuman and H. Ramadan "Modified manta ray foraging optimization algorithm based improved load frequency controller for interconnected microgrids," IET Renewable Power Generation, Aug 2022.
- E. Ahmed, A. Selim, H. Alnuman, W. Alhosaini, M. Ali, and E. Mohamed "Modified frequency regulator based on TI$^{\lambda}$-TD$^{\mu}$FF controller for interconnected microgrids with incorporating hybrid renewable energy sources," Mathematics, vol. 11, no. 1, Dec 2022.
- E. Ahmed, M. Aly, M. Mostafa, H. Rezk, H. Alnuman, and W. Alhosaini "An accurate model for bifacial photovoltaic panels," Sustainability, vol. 15, no. 1, Dec 2022.
- G. Abbas, A. Bhutto, T. Jumani, S. Mirsaeidi, M. Tunio, H. Alnuman, and A. Alshahir "A modified particle swarm optimization algorithm for power sharing and transient response improvement of a grid-tied solar pv based a.c. microgrid," energies, vol. 16, no. 1, Dec 2022.
- H. Alnuman, M. Hussan, S. Islam, A. Sarwar, E. Ahmed, and A. Armaghan "A single-source switched-capacitor 13-level high gain inverter with lower switch stress," IEEE Access, vol. 1, no. 1, Jan 2023.
- H. Alnuman, K. Hsia, M. Sepestanaki, E. Ahmed, S. Mobayen and A. Armaghan "Design of continuous finite-time controller based on adaptive tuning approach for disturbed boost converters," mathematics, vol. 11, no. 7, Apr 2023.
- H. Alnuman, Md. Samiullah, A. Armghan, E. Ahmed, S. Islam and A. Iqbal "Switched inductor super boost converter with auxiliary charging mode for low duty operation in a DC microgrid," Energy Reports, vol. 10, Nov 2023.

➢ Experience:

Organisation	**Period**	**Position**
Jouf Univeristy	2012	Teaching Assistant
Southern Illinois University	2012—2014	M.Sc Student
Jouf Univeristy	2014—2016	Lecturer
Centre for Research into Electrical Energy Storage & Applications (CREESA) in the UK at the University of Sheffield	2016—2021	Ph.D Researcher
IEEE Sheffield Student Branch	2017—2018	Events Officer
Students Union at The University of Sheffield	2018—2019	Officer in the postgraduate committee
Jouf University	2021—Now	Assistant Professor

Jouf University	2021—Now	Head of Alumni Unit in the Engineering College
Jouf University	2021—Now	Head of the Programs Accreditation Unit in the Deanship of Quality Academic Accreditation
Jouf University	2021—Now	Member of the Executive Committee of King Abdulaziz Quality Award
Jouf University	2021—Now	Head of the Intellectual Awareness Unit at the Deanship of Quality
Jouf University	2022—Now	Chairman of the Special Committee for Preparing Programs for the External Review Visit of the National Center for Academic Accreditation and Assessment
National Center for Assessment	2021—Now	Quality Supervisor
Jouf University	2022—Now	Vice dean of the Students Affairs Deanship
American Journal of Electrical Power and Energy Systems (EPES)	2023—Now	Editorial Board Member
Jouf University	2022—Now	Member of the permanent alumni committee
Jouf University	2022—Now	Member of the permanent committee organizing the Camel Conference