

DR. ANMAR IBRAHIM ARIF

PERSONAL INFORMATION

Position Assistant Professor, Department of Electrical Engineering, King Saud University.
Specialization Electrical engineering - power systems and operations research
Email anarif@ksu.edu.sa
Nationality Saudi

QUALIFICATIONS

2015 - 2019 **PhD in Electrical Engineering**
Minor in Industrial Engineering
Cumulative GPA: 4/4
Iowa State University (ISU) – Ames, Iowa, USA
Advisor: Dr. Zhaoyu Wang
Dissertation: Distribution system outage management after extreme weather events

2013 - 2015 **MSE in Electrical Engineering**
Cumulative GPA: 3.77/4
Arizona State University (ASU) – Tempe, Arizona, USA

2007 - 2012 **BSc in Electrical Engineering (First Class Honours)**
Cumulative GPA: 4.78/5
King Saud University – Riyadh, Saudi Arabia

EXPERIENCE

2019 - present **Assistant Professor**
Department of Electrical Engineering, King Saud University, Riyadh, Saudi Arabia

2021 – 2022 **Research Associate**
Department of Electrical and Electronic Engineering, University of Manchester, UK
Advisor: Prof. Jovica Milanovic
Project: EU H2020 project JUMP2excel, the project aims to step up and stimulate scientific excellence and innovation capacity in the field of PV and battery storage integration. My tasks included data collection, seminar and workshop preparation, and researching the effects of electric vehicles and heat pumps on the distribution system.

2019 - 2021 **Academic Visitor**
Department of Engineering Science, University of Oxford, Oxford, UK
Advisor: Dr. Kostas Margellos
Projects:

- Optimal allocation of parking hubs in free-floating rideshare systems.
- Optimizing the charging process of swappable batteries in coordination with the distribution system.

2012 - 2013 **Research Assistant**
Aramco Chair in Electrical Power | King Saud University, Riyadh, Saudi Arabia
Advisor: Prof. Imthias Ahamed
Project: developing adaptive algorithms for scheduling electric vehicle charging

RESEARCH INTERESTS

- Mathematical modeling and optimization
- Power system planning and resilience
- Renewable energy integration
- Operation and maintenance management in power systems
- Machine learning and artificial intelligence

PROFESSIONAL DEVELOPMENT

2020	IBM AI Engineering Specialization (6 courses) – Coursera
2020	Reinforcement Learning Specialization (4 courses), University of Alberta – Coursera
2019	IBM Data Science Professional Certificate Specialization (9 courses) - Coursera
2019	Advanced Modeling for Discrete Optimization, University of Melbourne – Coursera
2019	Basic Modeling for Discrete Optimization, University of Melbourne – Coursera

PUBLICATIONS

Peer-Reviewed Journals

2022	A. Arif , K. Margellos, "Locating parking hubs in free-floating ride share systems via data-driven optimization," <i>IEEE Transactions on Intelligent Transportation Systems</i> . vol. 23, no. 8, pp. 11621-11632, Aug. 2022.
2022	A. Arif , B. Cui, Z. Wang, "Switching device-cognizant sequential distribution system restoration," <i>IEEE Transactions on Power Systems</i> . vol. 37, no. 1, pp. 317-329, Jan. 2022.
2021	Q. Zhang, Z. Wang, S. Ma, A. Arif , "Stochastic pre-event preparation for enhancing resilience of distribution systems with high DER penetration," <i>Renewable and Sustainable Energy Reviews</i> , vol. 152, Dec. 2021.
2020	A. Arif , Z. Wang, C. Chen, J. Wang, "Repair and resource scheduling in unbalanced distribution systems using neighborhood search," <i>IEEE Transactions on Smart Grid</i> , vol. 11, no. 1, pp. 673 – 685, Jan. 2020.
2020	A. Arif , Z. Wang, C. Chen, B. Chen, "A stochastic multi-commodity logistic model for disaster preparation in distribution systems," <i>IEEE Transactions on Smart Grid</i> , vol. 11, no. 1, pp. 565 – 576, Jan. 2020.
2018	A. Arif , S. Ma, Z. Wang, J. Wang, S. M. Ryan, C. Chen, "Optimizing service restoration in distribution systems with uncertain repair time and demand," <i>IEEE Transaction on Power Systems</i> , vol. 33, no. 6, pp 6828-6838, Jul. 2018.
2018	A. Arif , Z. Wang, J. Wang, B. Mather, H. Bashualdo, and D. Zhao, "Load modeling – a review," <i>IEEE Transactions on Smart Grid</i> , vol. 9, no. 6, pp 5986-5999, Nov. 2018
2017	A. Arif , Z. Wang, J. Wang, C. Chen, "Power distribution system outage management with co-optimization of repairs, reconfiguration, and DG dispatch," <i>IEEE Transactions on Smart Grid</i> , vol. 9, no. 5, pp. 4109-4118, Jan. 2017.
2017	A. Arif and Z. Wang, "Networked microgrids for service restoration in resilient distribution systems," <i>IET Generation, Transmission & Distribution</i> , vol. 11, no. 14, pp. 3612-3619, September 2017.
2016	A. Arif , M. Babar, T. P. I. Ahamed, E. Al-Ammar, P. H. Nguyen, I. G. R. Kamphuis, N. Malik, "Online scheduling of plug-in vehicles in dynamic pricing schemes," <i>Sustainable Energy, Grids and Networks</i> , vol. 7, pp. 25-36, Sep. 2016.

Conference Proceedings

2022	A. Arif and J. Milanovic, "Battery storage allocation in unbalanced distribution systems with EV demand uncertainty," <i>Int. Conf. Probabilistic Methods Appl. to Power Sys.</i> , Manchester, United Kingdom, 2022, pp. 1-6.
2021	A. Arif and J. Milanovic, "Data-driven distribution system expansion planning considering high EV and PV penetration," <i>IEEE PES Innovative Smart Grid Technologies Europe</i> , Espoo, Finland, 2021, pp. 01-05.

2018	S. Ma, S. Li, Z. Wang, A. Arif and K. Ma, "A novel MILP formulation for fault isolation and network reconfiguration in active distribution systems," <i>IEEE PES General Meeting</i> , Portland, OR, 2018, pp. 1-5.
2018	A. Arif , S. Ma, Z. Wang, "Distribution network outage data analysis and repair time prediction using deep learning," <i>IEEE Int Conf. Probabilistic Methods Appl. Power Sys.</i> , Boise, ID, 2018, pp. 1-6.
2018	A. Arif , S. Ma, Z. Wang, "Dynamic reconfiguration and fault isolation for a selfhealing distribution system," <i>IEEE PES Transm. Distrib. Conf. Expo.</i> , Denver, CO, 2018, pp. 1-5.
2017	A. Arif , S. Ma, Z. Wang, "Online decomposed optimal outage management after natural disasters," in Proc. IEEE Power and Energy Society General Meeting (PESGM), Chicago, IL, 2017, pp. 1-5.
2016	A. Arif , S. Ma, Z. Wang, "Optimization of transmission system repair and restoration with crew routing," in Proc. IEEE North American Power Symposium (NAPS), 2016, Denver, CO, pp. 1-6.
2016	A. Arif , Z. Wang, "Service restoration in resilient power distribution systems with networked microgrid," in Proc. IEEE Power and Energy Society General Meeting (PESGM), 2016, Boston, MA, pp. 1-5.
2013	A. Arif , T. P. I. Ahamed, N. Malik, "Online adaptive algorithm for scheduling PEV charging," in Proc. IEEE International Conference on Control Applications, Hyderabad, 2013, pp. 843-848.
2013	A. Arif , T. P. I. Ahamed, E. Al Ammar "Pursuit algorithm for scheduling PEV charging," in Proc. 4th International Conference on Power Engineering, Energy and Electrical Drives, Istanbul, Turkey, 2013, pp. 915-920.
2013	A. Arif , M. Al-Hussain, N. Al-Mutairi, E. Al-Ammar, Y. Khan, N. Malik, "Experimental study and design of smart energy meter for the smart grid," in Proc. IEEE Renewable and Sustainable Energy Conference (IRSEC), Ouarzazate, Morocco, 2013, pp. 515-520.

HONORS & AWARDS

2019	Research Excellence Award Iowa State University award for outstanding research accomplishments
2019	Student Research Award King Saud University award for scientific excellence
2018	Top Reviewers for Engineering – Publons For placing in the top 1% of reviewers in Engineering on Publons' global reviewer database.
2012	Best Research Project Award Competition organized by Advanced Electronic Company and KSU, Riyadh, Saudi Arabia

SKILLS

Programming Languages	Modelling Languages	Power System Simulation
<ul style="list-style-type: none"> • MATLAB • Python • R • Latex 	<ul style="list-style-type: none"> • AMPL • Pyomo • MiniZinc • Gurobi 	<ul style="list-style-type: none"> • OpenDSS • MATPOWER