Ansari Aadil Shahzad

R&D Engineer

www.linkedin.com/in/ansari-aadil
https://www.researchgate.net/profile/Ansari-Shahzad

ansariaaadil.97@gmail.com
+971529823164

HIGHLIGHTS

- Masters in Renewable Energy Engineering with experience in Clean Energy Systems and Transition, Energy Modelling, Technoeconomic Assessment, and Project Management.
- 4+ years of clean energy systems transition and modelling experience.

EXPERIENCE

R&D Engineer – R&D Centre – Dubai Electricity and Water Authority   Nov 2021 – Present

- Development of an in-house optimization model ensuring minute and hourly balance between demand and supply, maintaining system resiliency, and working on the user interface (UI).
- Conducting technoeconomic studies (levelized cost of energy (LCOE)) on different PV technologies (ground, floating, rooftop, agrivoltaics), CSP, wind, nuclear, gas power plants (with and without CCS), and storages (batteries, pumped hydro, hydrogen, ACAES, PCMs, etc.) for harsh desert environments.
- Demand profiles (non-cooling electric, cooling, water, hydrogen and industrial) assessment, renewable energy EV profiles creation.
- Consideration of Imports and Exports, reserve margins, CO_2 pricing, etc. for the optimization model.
- Providing energy transition pathway recommendations to different internal and external partners.
- Writing and reviewing technical papers, presentations, feasibility studies for knowledge dissemination.

Research Intern – R&D Centre – Dubai Electricity and Water Authority   Feb 2021 – Nov 2021

- Worked in Solar Decathlon Middle East (SDME) 2021 with the core infrastructure team.
- Global comparative assessment of energy benefit between bifacial and monofacial PV (with & without thermal regulation) modules.
- Multi-tilt assessment of different monofacial PV modules under harsh desert conditions.
- Energy yield assessment of Building Integrated Photovoltaics (BIPV) under different performance parameters (tilt, temperature, orientation, ventilation).

Akademie Operations Apprentice - TUV Nord ME   Jan 2019 – July 2019

- Identifying training and development needs; planning, organizing, and overseeing appropriate training.
- Assisted energy auditors to conduct ISO based certifications (50001).

Technical Analyst Intern – Burj Eiffel Lubricants   June 2017 – Aug 2017

- Testing the quality of oils, lubricants and greases.

ACADEMIC BACKGROUND

M.Sc. – Heriot Watt University, Dubai   2019-2020

- Major: Renewable Energy Engineering   Cumulative GPA: 3.75/4.0

B.E. (Hons) – Birla Institute of Technology and Science (BITS) Pilani, Dubai   2015-2019

- Major: Mechanical Engineering   Cumulative GPA: 8.13/10.0

TECHNICAL SKILLS

- Modeling/Simulation – Levelized Cost Analysis, Marginal Cost of Electricity, NREL System Advisor Model (SAM), PV SYST, GlueViz, CATIA, AutoCAD, COMSOL.
- Programming - Python, Gurobi, Dashboard / UI creation using streamlit, MATLAB.

CERTIFICATIONS

1. *Introduction to Artificial Intelligence and Machine Learning*, 2023 (DEWA and NEONax)

RESEARCH PROJECTS

- Time-resolved cost of electricity in future energy systems
    - Research Engineer, Dubai Electricity and Water Authority   Jan 2023 – present
- Simulation and optimization of the electricity and broader energy system of Dubai under very high adoption of Renewable Energy
    - Associate Research Engineer, Dubai Electricity and Water Authority   Jan 2021 – Dec 2022

HONORS AND AWARDS

- Recipient of Most Provocative award – Best Ideation Session 2021-2022 by Dubai Electricity and Water Authority.

JOURNAL PUBLICATIONS

1. *Realizing renewable resilience: Lessons for the Middle East for the global energy transition* (Cell - iScience) (10.1016/j.isci.2024.110058)
   Authors – Ansari Aadil Shahzad, A Bamigbade, K Gandhi, JD Barbosa, A Sleptchenko, HN Apostoleris & S Sgouridis
2. *Quantitative assessment of the HVAC system of zero-energy houses in the Solar Decathlon Middle East 2021* (ScienceDirect – Energy Reports) (10.1016/j.egyr.2023.05.042)
   Authors – OA Qureshi, E Trepci, Ansari Aadil Shahzad, P Manandhar & E Rodriguez
3. *Thermal or Photovoltaic Rear Sides? A Parametric Comparison between PV Thermal and Bifacial Technology* (Elsevier-Energy Conversion and Management) (10.1016/j.enconman.2023.117134)
   Authors – OA Qureshi, Ansari Aadil Shahzad, AAB Baloch, E Rodriguez, JD Barbosa, V Alberts & S Sgouridis

CONFERENCE PUBLICATIONS

1. *Tilt correction to maximize energy yield from bifacial PV modules* (IOP Conf. Ser.: Earth Environ. Sci., 2022)
   Authors: JD Barbosa, Ansari Aadil Shahzad, P Manandhar, OA Qureshi, E Rodriguez, V Alberts & S Sgouridis
2. *Assessment of PV Performance-Enhancing Technologies in Desert Climate Conditions of Dubai* (IEEE, 2023)
   Authors: U Haider; OA Qureshi; Ansari Aadil Shahzad; AAB Baloch; E Rodriguez

BOOK CHAPTERS

1. *Critical Feature Selection and Machine Learning-based Models for Monofacial and Bifacial Photovoltaics*. In: (Smart Grid and Internet of Things. SGIoT 2021. Social Informatics and Telecommunications Engineering, vol 447. Springer,2022)
   Authors: Ansari Aadil Shahzad, P Manandhar, OA Qureshi, AAB Baloch, E Rodriguez, V Alberts & S Sgouridis

REFERENCES

1. Dr. Sgouris Sgouridis (Director – Research Programs – DEWA R&D Centre, UAE)
   Email: sgouris.sgouridis@dewa.gov.ae
2. Dr. Harry Apostoleris (Senior Researcher – Energy Systems Analysis – DEWA R&D Centre, UAE)
   Email: harry.nicholas@dewa.gov.ae
3. Prof. Tadhg O'Donovan (Professor and Deputy Vice Principal – Heriot Watt University, UAE)
   Email: t.s.odonovan@hw.ac.uk
4. Dr. Ahmer Baloch (Senior Researcher – Solar – DEWA R&D Centre, UAE)
   Email: ahmer.baloch@dewa.gov.ae
5. Dr. Vincent Shantha Kumar (Professor and Head of Department – Mechanical Engineering – Birla Institute of Technologyand Science (BITS) Pilani, UAE)
   Email: vincent@dubai.bits-pilani.ac.in