NEETHU ELIZABETH MICHAEL(Ph.D.)

Doctor of Philosophy | Electrical Engineering
Birla Institute of Technology and Science, Pilani
Dubai UAE.

neethueliza@gmail.com
(+971)552235646)
Google Scholar

PROFESSIONAL SUMMARY

- Ability to learn power system modeling, 4.5 years of industry experience, and 5 years of experience working with collaborative academic research projects as evidenced by 7 peer-reviewed journals(Q1/Q2) and 2 conference papers.
- Superior understanding and knowledge of software including MATLAB and PSS/E for Model-based development (MBD) of Energy Storage Systems (ESS) in Virtual power plants and Microgrids (MG) to promote high integration of inverter-interfaced Renewable Energy Sources (RES).
- Experience in modeling grid forming and grid following inverters considering electrical grid dynamics, and experience in Deep Learning algorithms for forecasting electrical parameters.

SKILLS LIST

- MATLAB™/Simulink®
- OPAL-RT (OP5700)-HIL
- Self-learning (PSSE32)
- AutoCAD, Microsoft Visio,
- Scientific and technical writing
- Ability to work collaboratively and independently.
- Strong communication skills and Time management skills.
- Ability to manage projects and priorities.
- Troubleshooting expertise.
- Growth-oriented researcher.
- Organizational Skills.
- Microsoft Office (Word, Excel, PowerPoint)

WORK EXPERIENCE

Teaching, Learning, Administration, and Research Skills.

Gained as an Adjunct Faculty at Amity University in Dubai, UAE Sept'2022-Present

- Tutorials for undergraduate level in Electrical and Electronics Engineering, power systems, power electronics, and renewable energy resources area.
- Engagement in teaching innovation and curriculum revision.
- Assessment duties and supervision of subject projects.
- Collaborative research.

Project Management Skills.

Gained as a Part-time Research Assistant for the Smart Grid and Power Systems Research Group at the University Of Sharjah in Sharjah, UAE Aug' 2022- Present

- Performed independent and collaborative research on the Project "Optimization of Renewable Energy Sources in a Microgrid System".
- Published Journals, prepared reports, wrote proposals, and mentored researchers.
- Performed real-time analysis using OPAL-RT (OP5700) control suit for Microgrid operation.
- Creating budgets, communicating, and coordinating with suppliers/Getting quotes for the procurement of project equipment -at UOS.

Research Analysis, Leadership, and Teaching Skills.

Gained as a Ph. D. Scholar at Birla Institute of Technology & Science, in Dubai UAE, in the Electrical Engineering department. Aug' 2018-Oct' 2022

- Performed Modeling and Economic Market Frameworks using Energy Storage Systems optimization.
- Developed deep learning architectures for forecasting electricity parameters (ANN, CNN, and LSTM; programming, and simulation skills in MATLAB) and data preprocessing techniques.
- Utilized the capabilities of inverters and managed Electric Vehicles (EVs) and Data Center UPS battery loads effectively to reduce the impact of renewable resources and EVs by enabling energy trading in the power grid.
- Designed Energy Management Systems through frequency regulation by grid forming inverter for high renewable energy (RE) penetration.
- Published Q1/Q2 Journals, conferences, prepared reports, and assisted undergraduate and postgraduate students.
- Teaching assistance in power systems, electrical engineering, and renewable energy resources area.

Project Estimation Expertise

Gained as MEP Estimator at Bowyer Wick Interiors in Dubai, UAE Jan' 2016-Apr' 2016

- Involved in the Estimation of Industrial, residential, retail & fit-out projects.
- Experience in operating and maintaining building electrical systems such as lighting, power distribution, grounding, fire alarm, security systems, and control systems.

Project Management and Execution Expertise

Gained as Electrical Engineer at Freeman Contracting LLC in Dubai, UAE Oct' 2011-Dec'2015

- Involved in Designing, Estimation, and project Execution of Industrial, residential, retail & fit-out projects.

EDUCATION:

Doctor of Philosophy (Ph.D.) | Electrical Engineering (Electrical Engineering) Oct'(13) 2022
Birla Institute of Technology & Science, Pilani.

- Thesis Title: Energy Storage Systems for Ancillary Services in Smart Grid using Virtual Power plant concept.

Master of Technology (M. Tech) | (Power Systems) Jul' 2009-Jul' 2011
Government Engineering College, Thrissur, University of Calicut, Kerala, India

- Developed a test bed of Three-Phase Shunt Active Filter on a DSP-based motor controller.
- Thesis: Simulation and Hardware Implementation of a Three-Phase Shunt Active Filter.

Bachelor of Technology (B. Tech) | (Electrical and Electronics Engineering) Jun' 2005-May 2009
Mahatma Gandhi University College of Engineering, Kerala, India

- Project: Study and Analysis of Gas-insulated switchgear substation

CERTIFICATIONS AND ACHIEVEMENTS:

- Time Series Analysis and Forecasting with Python: Certification by Udemy.
- Online Self learning: "PSS/E - Power System Analysis" Udemy.
  - Engineering analysis: Network modeling and load flow studies, and short circuit studies in PSSE.
  - Preparing reports for a variety of electric transmission expansion and interconnection studies in PSSE.
- Grace Hopper Celebration 2021 Scholar, Dubai Municipality Qualified Electrical Engineer.
- Certified as Junior Solar PV Expert by Dubai Electricity and Water Authority (DEWA) in the year 2015 as a part of smart initiatives by DEWA.