Dr. Mohamed Massaoudi

Mohamed Massaoudi is with the Department of Electrical and Computer Engineering at Texas A&M University. He has eight years of hands-on experience in applying data-driven strategies to tackle real-world problems. During his research work, Dr. Massaoudi is the lead author of more than 40 peer-reviewed journals and conference publications, including the **IEEE Transactions on Power Systems**. He received the Student Excellence Award in 2021 for his research contributions. His research interests include machine learning and deep learning techniques for power system stability, power grid partitioning, and cyber-physical security on power grids.

Virtual seminar

Adaptive Strategies for Power Grid Stability Advancement in Renewable-Enriched Power

Dr. Mohamed Massaoudi, Texas A&M University
28-03-2024, 9:00 (GMT+3) | https://tamu.zoom.us/j/94240165244

ABSTRACT:

Monitoring the power system's stability and detecting early signs of potential instability, which may precede a blackout, is essential for the dependable and secure operation of power systems. With the extensive deployment of phasor measurement units (PMUs)—crucial instruments in wide-area monitoring, protection, and control systems—and progress in information and communication technology, it is now feasible to gather the vital data needed to evaluate the power system stability (PSS) status of the system in a timely manner. We will present the latest research on data-driven methods for PSS assessment while accounting for the unique properties of power grids. Furthermore, we will discuss the advantages and key trade-offs of the emerging computational techniques as powerful tools for the optimal power flow. For all methods outlined, a discussion of their bottlenecks, research challenges, and potential opportunities in large-scale power systems will be presented.