



Ensemble Forecasting for Distributed Energy Integration

Abstract:

Modern power systems, embedding ubiquitous distributed energy resources, such as electric vehicles and storage systems, increasingly need to resort to advanced forecasting techniques, from generation to demand. In this context, the accuracy of the results is generally proportional to the benefits for the involved utilities. This has led the stakeholders to test and compare different prediction techniques in order to identify the most accurate one. An alternative approach, consisting of an ensemble method which dynamically weights all algorithms over time, is presented and discussed. Tests with actual time series related to generation and demand have shown improvements in the mean and the standard deviation of the prediction errors.

Catalina Gómez-Quiles, University of Seville



Catalina Gómez-Quiles received the electrical engineering degree from the University of Seville, Spain, in 2006, the Msc. Eng. degree in electrical engineering from McGill University, Montreal, QC, Canada, in 2008, and the Ph.D. degree from the University of Seville, in 2012. Her research interests include mathematical and computer models for power system analysis, risk assessment in competitive electricity markets, and forecasting in power systems.