IEEE Transactions on Smart Grid

Special Issue on Analytics for Energy Forecasting with Applications to Smart Grid

Wide range deployment of smart grid technologies enables utilities to gather electricity consumption data on a much more granular level than ever before. While the utilities can potentially better understand the customers,design the demand response programs, forecast and control the loads, and plan the systems, etc., they are facing analytic issues with making sense and taking advantage of the"bigdata". This special issue covers both challenges and opportunities for the energy forecasting communities, and will bring together the state-of-the-art analytics, technologiesand best practices in the smart grid industry.Preferences will be given to the papers that describe forecasting modelsthat are tested using public data and currently implemented in the utilities, advanced analytics applied to smart meter data, forecasting approaches and processesforsmart grid and other utility applications,and winning entries of2012 Global Energy Forecasting Competition. Topics of interest include but not limited to:

1. Building, home, and appliance load forecasting
2. Design, implementation and analysis of forecasting algorithms for demand response programs
3. Customer segmentation and energy portfolio optimization
4. Electricity price forecasting with applications to microgrid control and optimization
5. Load research studies with smart meter data
6. Distribution system monitoring, PMU applications, and loss evaluation
7. Spatial load forecasting (microgrids, virtual power plants, energy hubs)
8. Wind and solargeneration forecasting for community aggregation
9. Forecasting with emerging technology applicationsfor EV, LED light bulbs, isolated power systems, etc.
10. Hierarchical load forecasting, multi-segment load forecasting, and selection of weather stations for load forecasting
11. Combining forecasting,ensemble forecasting, and consensus forecasting
12. Long term load forecasting with hourly/sub-hourly load and weather information
13. Short term load forecasting at 15 minutes (or less) intervals
14. Probabilistic forecasting and density forecasting
15. Outlier detection and data cleansing with applications to forecasting

SUBMISSION GUIDELINES

This special issue solicits original work that is not under consideration for publication in other venues. Two-page extended abstracts are required for the first round of reviews. Authors of selected abstracts will be invited to submit full papers in the second round. Authors should refer to http://www.ieee-pes.org/publications/information-for-authors for information about content and formatting of submissions. Please submit a PDF version of the extended abstract, including a cover letter with authors' contact information via e-mail to hongtao01@gmail.com before the deadline.

IMPORTANT DATES

Sep30th, 2012: Deadline for submission of extended abstracts
Nov15th, 2012: Completion of first-round of reviews
Feb15th, 2013: Deadline for submission of full papers
Aug31st, 2013: Notification of final decisions

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