IEEE BDA Webinar Series: Big Data & Analytics for Power Systems

Finding the Right Grid Model for Your Research in the GRID DATA Repository Using Big Data Semantic Search

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11am-12pm, Friday, EST, May 18

Abstract: This presentation will provide an overview of the GRID DATA Repository - a free electronic library of open source grid models and test data instigated by the DOE ARPA-E to support research in grid optimization and modernization. The Repository currently contains over 300 transmission and distribution networks, and is growing rapidly as the research community creates new and bigger grid models. The presentation will describe the Big Data technologies evaluated, selected, and deployed (e.g., a hybrid SQL/NOSQL graph database, JSON converters, semantic preprocessing), and will include a live demo of the natural language search capability that researchers can use to find models of interest, by posing natural language queries such as: (1) Search for models with greater than 5,000 buses with over 10,000 miles of total line length of 69kV and above (2) Search for GridLab models that have over 10 PV loads on a single 4KV circuit

Bio: Ali Vojdani is the Founder and CEO of GridBright (gridbright.com), specializing in grid management and integration of distributed and renewable energy resources. He is also the Founder and the President of BetterGrids Foundation (bettergrids.com), a nonprofit public charity dedicated to support of GRID DATA Repository to benefit grid research and education. Earlier, he was the Founder and CEO of Utility Integration Solutions (UISOL) that was acquired by Alstom in 2011. He has 40 years of experience in the computer application in the utility industry as part of his professional career at GridBright, ALSTOM, UISOL, Vitria Technology, Perot Systems, EPRI, PG&E, and McGill University. Dr. Vojdani has a Ph.D. in electrical engineering from McGill, and has authored over 60 technical publications.

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