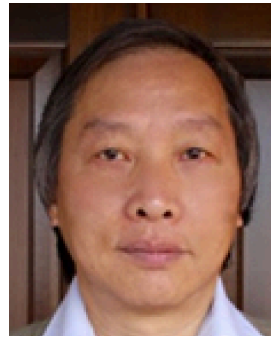# IEEE BDA Webinar Series: Big Data & Analytics for Power Systems

An energy IoT platform for real-time production and delivery of wind power generation forecasts

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Abstract: Power generation using renewable energy resources such as wind turbines has grown increasingly popular. Because the underlying meteorological processes are highly unpredictable, it has become important to be able to provide accurate power forecasts in real-time. In this talk we will describe an end-to-end IoT platform that enables SCADA sensor data to be collected in real-time directly from a remote wind farm, securely and reliably transmitted to cloud servers where data is analyzed to create forecasting models. These models are then applied to the turbine sensor data stream to generate day-ahead power generation forecasts. We will also describe the machine learning techniques used as the basis for the forecasting models and our strategies to make the solution scalable for other big data applications.

Bio: **Chandrasekar (Chandra) Venkatraman** is Principal Research Scientist at Hitachi America Research and Development in the Big Data Laboratory focusing on Industrial IoT Architectures and Analytics for Energy. Prior to joining he was Chief Scientist at FogHorn Systems – Palo Alto based start-up focusing on Big Data Analytics and applications platform for Industrial Internet of Things (IoT). Chandra was with Hewlett Packard Labs, Palo Alto for almost two decades working on Information architectures, distributed computing, in-home network, ePrint architecture, sensor networks and Internet of Things. He has authored over 15 patents and a number of research papers and talks. **Pierre Huyn** has over 30 years of research and advanced development experience in data management, big data analytics, and software engineering. His current interest is in big data architectures for IoT and deep learning for time series data in the domain of renewable energy.

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