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

Power Quality Data Analytics and Applications

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10:00 am-11:00 am, PST, Thursday, Sept. 5, 2019

(12:00 pm – 1:00 pm, CST) (1:00 pm - 2:00 pm, EST)

Abstract: Power quality measurement data are voluminous. They are collected by power quality monitors and intelligent electronic devices installed in distribution substations, feeders, and service entrances. Unfortunately, the task of converting data to the knowledge of situational awareness of equipment and system-level conditions has been often performed manually. This presentation describes efforts to automate and mimick manual human thought process in analyzing voluminous power quality data. Several applications will be shown: identification of operation of protective devices and their coordination, detecting incipient cable faults and predicting its locations, and health conditions of capacitor banks and their switching devices.

Bio: Surya Santoso (F'15) earned his B.S. degree from Satya Wacana Christian University, Salatiga, Indonesia, in 1992, and M.S.E. and Ph.D. degrees in Electrical and Computer Engineering from The University of Texas at Austin, in 1994 and 1996, respectively. He was a Senior Power Systems and Consulting Engineer with Electrotek Concepts, Knoxville, TN, USA, from 1997 to 2003. He joined the faculty of The University of Texas at Austin in 2003 and is currently Professor of Electrical and Computer Engineering. His research interests include power quality, power systems, and renewable energy integration in transmission and distribution systems. He is co-author of Electrical Power Systems Quality (3rd edition), sole author of Fundamentals of Electric Power Quality, and editor of Handbook of Electric Power Calculations (4th edition) and Standard Handbook for Electrical Engineers (17th edition). He is an IEEE Fellow.

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