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Seminar:
Dr. Reza Arghandeh, Florida State University
Data 2 Knowledge 2 Cities
Thursday, March 22, 2018, 12 Noon, 202 ECEC

Abstract:

Given the tremendous production of data in smart grids and smart cities, there is a need for new powerful tools that can automatically generate useful knowledge from a variety of data, and present it to electric grid operators and stakeholders. For knowledge mining, researchers have been exploring methods and algorithms developed in machine learning methods, statistical inference, information theory, perception, and network modeling. This talk addresses a compendium of ideas on the applicability of machine learning and causality analysis for data fusion and processing in smart grids and smart cities. Using the causality inference makes it possible to derive knowledge not only from large amounts of data but also from limited and weakly relevant data sets. This talk also outlines our current research direction in CI2Lab by which we characterize the interdependency and interconnectivity of electricity networks with other urban utility networks such as transportation networks.

Bio:

Dr. Reza Arghandeh is an assistant professor in the Electrical and Computer Eng Dept and the Center for Advanced Power System, Florida State University. He is the director of Collaborative Intelligent Infrastructure Lab (CI2). He has been a postdoctoral scholar at the University of California, Berkeley's California Institute for Energy and Environment 2013-2015. He has five years' industrial experience in power and energy systems. He completed his Ph.D. in Electrical Engineering with a specialization in power systems at Virginia Tech, 2013. He holds Master's degrees in Industrial and System Engineering from Virginia Tech 2013 and in Energy Systems from the University of Manchester 2008. From 2011 to 2013, he was a power system software designer at Electrical Distribution Design Inc. in Virginia. Dr. Arghandeh's research interests include, but are not limited to data analysis and decision support for smart grids and smart cities using statistical inference, machine learning, and information theory. He is a recipient of the Association of Energy Engineers (AEE) Scholarship 2012, the UC Davis Green Tech Fellowship 2011, and the best paper award from the ASME 2012 Power Conference and IEEE PESGM 2015. He is the chair of the IEEE Task Force on Big Data Application for Power Distribution Network.