Title: Data Science for Industrial IoT, Industry 4.0 and Renewable Energy

Speaker: Dr. Shivkumar Kalyanaraman, Executive Leader, Digital Renewables Innovations,GE Power Conversion

Abstract:

This talk outlines how industrial sectors are moving towards a more digitally-driven, software-defined model envisioned by cyber-physical system thinkers. Industrial IoT is throwing up vast amounts of data and allowing business model changes. This talk will focus on the energy industry and outline how a combination of IoT data, data science, renewable energy (wind, solar, storage, electric vehicles), and a broader trend of flexible clean energy economy enabled by software-defined electrification is emerging. We will go through specific examples in solar, wind to show how data science and software is driving significant changes in industry cost structures. I will also share my personal journey evolving from an academic to an industrial researcher and to a business leader amidst these industry changes.

Title: The Frontiers of Machine Learning

Speaker: Prof. Sunita Sarawagi, Professor, Department of Computer Science Engineering, IIT Bombay

Sunita Sarawagi researches in the fields of databases, data mining, and machine learning. Her current research interests are deep learning, graphical models and information extraction. She is institute chair professor at IIT Bombay. She got her PhD in databases from the University of California at Berkeley and a bachelor's degree from IIT Kharagpur. Her past affiliations include visiting faculty at Google Research, Mountain view, CA, visiting faculty at CMU Pittsburg, and research staff member at IBM Almaden Research Center. She has several publications in databases and data mining and several patents.

Abstract:

Machine Learning (ML) started as a niche field of computer science in the eighties and has now grown to impact several aspects of our daily life. I will start with an overview of the core ML primitives including classification, regression, structured prediction, and reinforcement learning. I will then attempt to summarize the current fervent pace of research in ML and take a peek into what we might expect in the near-term future.