EPSTEIN INSTITUTE SEMINAR ▪ ISE 651

Data Science for Wind Energy: Power Curve Modeling and Production Performance Analysis

ABSTRACT - In his book, Data Science for Wind Energy, the speaker discussed a set of wind operational problems through a general formulation of $y= \int p(y \mid x)p(x)dx$, where y is the power output and x is the wind and environmental input. The conditional density, $p(y \mid x)$, or its mean function, $E(y \mid x)$, is related to the power curve model of wind turbines. The model characterizes and quantifies a wind turbine's performance and production efficiency. The data science of concern is in the form of nonparametric functional regression. The speaker will discuss the data science challenges encountered in wind applications and present examples in which data science solutions make sensible impacts.

Dr. Yu Ding
Professor, Industrial & Systems Engineering and Electrical & Computer Engineering,
Texas A&M University
Associate Director for Research Engagement, Texas A&M Institute of Data Science

SPEAKER BIO – Dr. Yu Ding is the Mike and Sugar Barnes Professor of Industrial & Systems Engineering, Professor of Electrical & Computer Engineering, and Associate Director for Research Engagement of Texas A&M Institute of Data Science. Dr. Ding received his Ph.D. degree from the University of Michigan in 2001. His research interest is in data and quality science. Dr. Ding is a recipient of the 2018 Texas A&M Engineering Research Impact Award, the 2019 IISE Technical Innovation Award, the 2020 Texas A&M's University-Level Distinguished Achievement Award in Research, and a Fellow of IISE and ASME. Dr. Ding is the Editor-in-Chief of IISE Transactions for the term of 2021-2024.

USC Viterbi
School of Engineering
Daniel J. Epstein Department of
Industrial and Systems Engineering

TUESDAY, FEBRUARY 23, 2021
3:30 PM – 4:50 PM
ZOOM/ONLINE *PLEASE EMAIL OWH@USC.EDU FOR PASSWORD*