



BIG DATA

Interdisciplinary Data Sciences Consortium



* IDSC *

January 26, 2018 2:00-3:00pm

Location: ENB 313

Presents

Dr. Mingyang Li

Industrial & Management Systems Engineering, USF

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Title: Bayesian Data Analytics for Reliability Modeling Improvement

Abstract: Accurate reliability modeling and prediction is the essential basis for realizing effective reliability design, efficient laboratory testing and proactive maintenance operations of the deteriorating engineering systems. Motivated by reliability engineering problems, in this talk, I will introduce two Bayesian data analytics methodologies to improve reliability modeling by analyzing the complex reliability data structures, namely multi-level and heterogeneous data structures. I will first talk about a Bayesian multi-level data fusion framework to integrate reliability data at different levels of the system hierarchy in a coherent and systematic manner to improve system reliability modeling accuracy. Then, I will introduce a Bayesian heterogeneous data quantification methodology with sampling algorithms to analyze the heterogeneous time-to-event data in a more effective and efficient manner with less modeling assumptions.



Biography: Dr. Mingyang Li is an Assistant Professor in the Department of Industrial and Management Systems Engineering at the University of South Florida. He received his PhD in Systems and Industrial Engineering from the University of Arizona. His research interests focus on data analytics and system informatics with diverse applications in reliability & quality, healthcare, energy, homeland security, manufacturing, etc. He develops and applies sophisticated statistical methodologies and computational tools, integrated with domain knowledge, to tackle complex problems (e.g., modeling, prediction, design, monitoring, diagnostics, prognostics, planning, scheduling, control, etc.) in a complex data environment and meet with challenges in a Big Data era. His research has been published in high quality journals, such as IISE Transactions, IEEE Transactions on Reliability, Reliability Engineering & System Safety, Journal of Quality Technology and Quality Engineering.

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