UCLA College | Physical Sciences
Statistics & Data Science

2024 De Leeuw Seminar

AI, BI & SI—Artificial, Biological and Statistical Intelligent

By Dennis K.J. Lin, Distinguished Professor
Department of Statistics, Purdue University

ABSTRACT: Artificial Intelligence (AI) is clearly one of the hottest subjects these days. Basically, AI employs a huge number of inputs (training data), super-efficient computer power/memory, and smart algorithms to perform its intelligence. In contrast, Biological Intelligence (BI) is a natural intelligence that requires very little or even no input. This talk will first discuss the fundamental issue of input (training data) for AI. After all, not-so-informative inputs (even if they are huge) will result in a not-so-intelligent AI. Specifically, three issues will be discussed: (1) input bias, (2) data right vs. right data, and (3) sample vs. population. Finally, the importance of Statistical Intelligence (SI) will be introduced. SI is somehow in between AI and BI. It employs important sample data, solid theoretically proven statistical inference/models, and natural intelligence. In my view, AI will become more and more powerful in many senses, but it will never replace BI. After all, it is said that "The truth is stranger than fiction, because fiction must make sense." The ultimate goal of this study is "how can humans use AI, BI, and SI together to do things better."

Online only due to security situation on campus.

About the Speaker

Dr. Dennis K. J. Lin is a Distinguished Professor of Statistics at Purdue University. He served as the Department Head during 2020-2022. Prior to this current job, he was a University Distinguished Professor of Supply Chain Management and Statistics at Penn State, where he worked for 25 years. His research interests are data quality, industrial statistics, statistical inference, and data science. He has published nearly 300 SCI/SSCI papers in a wide variety of journals. He currently serves or has served as an associate editor for more than 10 professional journals and was a co-editor for Applied Stochastic Models for Business and Industry. Dr. Lin is an elected fellow of ASA, IMS, ASQ, & RSS, an elected member of ISI, and a lifetime member of ICSA. He is an honorary chair professor for various universities, including a Chang-Jiang Scholar at Renmin University of China, Fudan University, and National Taiwan Normal University. His recent awards include, the Youden Address (ASQ, 2010), the Shewell Award (ASQ, 2010), the Don Owen Award (ASA, 2011), the Loutit Address (SSC, 2011), the Hunter Award (ASQ, 2014), the Shewhart Medal (ASQ, 2015), and the SPES Award (ASA, 2016). He was the Deming Lecturer Award at 2020 JSM. His most recent award is "The 2022 Distinguished Alumni Award" (National Tsing Hua University, Taiwan).

Tuesday May 7, 2024, 3:00pm-5:00pm

Luskin Conference Center, Legacy Room