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Friday, October 17, 2025

12:00-1:00 pm

Morgridge Hall Seminar Room 7560 or

Zoom:

<https://uwmadison.zoom.us/j/99879638765?pwd=wbtqxoucEFilPVCVc9SFbvKB1Av7Xk.1>

Passcode: 343271

Two Disciplines, One Mission – A Comparative View on Making Sense of Imperfect Data from Statistical Science to Machine Learning

Abstract: In the data-driven era, data quality plays a pivotal role in ensuring valid statistical inference and robust machine learning performance. Yet, imperfections such as measurement error in predictors and label noise in supervised learning are pervasive across a wide range of domains, including health sciences, epidemiology, economics, and beyond. These imperfections can obscure true patterns, introduce bias, and compromise the reliability of analyses. Such issues have attracted extensive attention from both the statistical and machine learning communities. In this talk, I will offer a brief comparative review of approaches in statistical science and machine learning, highlighting the importance of addressing data quality issues and developing strategies to mitigate their adverse effects on inference and prediction.

Bio: Grace Y. Yi is a Professor and Tier I Canada Research Chair in Data Science at the University of Western Ontario. She is the author of the monograph “Statistical Analysis with Measurement Error or Misclassification: Strategy, Method, and Application” (2017, Springer) and co-editor of the “Handbook of Measurement Error Models” (Grace Y. Yi, Aurore Delaigle, and Paul Gustafson, 2021, Chapman & Hall/CRC). She is also a coauthor of the monograph Likelihood and its Extensions (with Nancy Reid and Cristiano Varin, Chapman & Hall/CRC, 2025). Professor Yi is the 2025 Gold Medalist of the Statistical Society of Canada (SSC). She is a Fellow of the Institute of Mathematical Statistics and the American Statistical Association, and an Elected Member of the International Statistical Institute. She received the Award for Excellence in Graduate Student Mentoring from the University of Western Ontario (2023), and delivered the Myra Samuels Memorial Lecture at Purdue University (2025). Professor Yi served as coeditor-in-chief of the Electronic Journal of Statistics (2022–2024), editor-in-chief of the Canadian Journal of Statistics (2016–2018), and is currently serving as editor of the methodology section of the New England Journal of Statistics in Data Science. She has served as president of the Statistical Society of Canada (2021–2022) and as chair of the Lifetime Data Science Section of the American Statistical Association (2023). In 2012 she founded the first chapter of the International Chinese Statistical Association (ICSA)—the Canada Chapter.



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