統計科學研究所

INSTITUTE OF STATISTICAL SCIENCE

學 術 演 講

講　題：A Gateway to Trustworthy AI: Using Visual Analytics to Unmask Coincidental Correlations

講　者：Prof. Yu-Ru Lin

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時　間：2024年5月2日(星期四)，10:30-12:00

地　點：統計所B1演講廳

Abstract

In the realm of machine learning and data-driven decision-making, the risk of spurious and biased associations poses significant challenges to the integrity and reliability of AI systems. In this talk, I will introduce how visual analytic designs can empower data practitioners in navigating these complex issues. First, through a human-in-the-loop workflow, we tackle the problem of AI blindspots in classification models, where key patterns are often missed or misleading. Our design offers visually interpretable statistical methods to quantify and understand concept associations. It also includes debiasing techniques to address misleading patterns in data. Second, we tackle Simpson's Paradox, a phenomenon where associations in data appear contradictory at different levels of aggregation, leading to cognitive confusion and incorrect interpretations. Our design offers an intuitive causal analysis framework and a human-centric workflow, enabling users to identify, understand, and prevent spurious associations, leading to more accountable causal decision-making. Together, these design frameworks contribute to making AI more trustworthy, offering robust tools for overcoming the challenges of spurious and biased associations in machine learning through advanced visual analytics.

※ 茶 會：**10：10開始。**

※ 實體與線上視訊同步進行。