國立高雄大學統計學研究所
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聯合演講

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Robust Fusion Learning: Combining Inferences from Heterogeneous and Incomplete Studies

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時間｜2021年5月19日(星期三)下午3:30～4:30

摘要

Fusion learning refers to combining inferences from multiple sources or studies to provide more effective inference and prediction than from any individual source or study. Most existing methods for synthesizing inferences rely on parametric model assumptions, such as normality, which often do not hold in practice. We discuss a general nonparametric fusion learning framework for combining inferences on common parameters, possibly multi-dimensional, from multiple studies. The main tool underlying the proposed framework is the notion of depth confidence distribution (depth-CD). Broadly speaking, a depth-CD is a data-driven nonparametric summary distribution of inferential information for the target parameter. This approach is shown to be efficient, general and robust. It allows the model or inference structure to be different among individual studies. And it readily adapts to heterogeneous studies with a broad range of complex and irregular settings. This property enables it to utilize indirect evidence from incomplete studies to gain efficiency in the overall inference. This approach is less biased and more efficient than the traditional approaches in non-normal settings.

近期演講內容: http://www.stat.nuk.edu.tw/

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