國立中山大學應用數學系
學術演講

講　者：銀慶剛 教授 (國立清華大學)

講　題：Variable selection for high-dimensional misspecified regression models under covariate shift

時　間：2025/6/12（Thursday）14:10 ~ 15:00

地　點：理 SC 4009-1 教室

茶　會：13:45

Abstract

This study investigates using the Orthogonal Greedy Algorithm (OGA) for variable selection in high-dimensional regression under covariate shift, where the training and test inputs follow different distributions. Such distributional shifts, especially in the presence of model misspecification, can significantly impair the ability of the standard OGA to predict the test output accurately. To address this issue, we propose a modified approach, Importance-Weighted OGA (IWOGA), which reweights the training samples using trimmed density ratios between the test and training covariates. A key contribution of this work is to show that IWOGA achieves a fast convergence rate in test prediction error, even under model misspecification, provided general sparsity conditions are met.

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