敬請公告

東海大學統計學系學術演講

時　間：114 年 9 月 30 日（星期二下午 14:10~15:00）

地　點：管理學院新大樓 M242

主講人：王紹宣 教授 (中央大學 統計研究所)

講　題：Bayesian Sparse Kronecker product decomposition

Abstract

The Sparse Kronecker Product Decomposition (SKPD) for tensor data was introduced by Sanyou Wu and Long Feng (2023). This method represents the first frequentist framework designed for signal region detection in high-resolution, high-order image regression problems. Their work demonstrated the strong performance of SKPD in various applications.

In this presentation, we will introduce a Bayesian version of SKPD, referred to as Bayesian SKPD. From a Bayesian perspective, we apply a three-parameter beta-normal prior family to the parameters of interest. Additionally, we address tensor regression data with mixed-type responses using Polya-Gamma augmentation. This approach allows us to give credible region detection through direct Gibbs sampling. The theoretical results will be presented, and we will demonstrate the effectiveness of Bayesian SKPD using real brain imaging data from the OASIS.

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