

The Hong Kong University of Science and Technology

Seminar on Business Data Science

Department of ISOM

Tensor Learning in 2020s: Methodology, Theory, and Applications

By

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Date: 30 May 2025 (Friday)

Time: 11:00am – 12:00nn

Venue: Room 4047 (LSK Business Building)

Abstract

The analysis of tensor data, i.e., arrays with multiple directions, has become an active research topic in the era of big data. Datasets in the form of tensors arise from a range of scientific applications. Tensor methods also provide unique perspectives to many high-dimensional problems, where the observations are not necessarily tensors. Problems in high-dimensional tensors generally possess distinct characteristics that pose challenges to the data science community.

In this talk, we discuss some recent advances in tensor learning and their applications in genomics and computational imaging. We also illustrate how we develop statistically optimal methods and computationally efficient algorithms that interact with the modern theories of computation, high-dimensional statistics, and non-convex optimization.

Bio

Anru Zhang is a primary faculty member jointly appointed by the Department of Biostatistics & Bioinformatics and the Departments of Computer Science and the Eugene Anson Stead, Jr. M.D. Associate Professor at Duke University. He obtained his bachelor's degree from Peking University in 2010 and his Ph.D. from the University of Pennsylvania in 2015. His work focuses on high-dimensional statistical inference, tensor learning, generative models, and applications in electronic health records and microbiome data analysis. He won the IMS Tweedie Award, the COPSS Emerging Leader Award, and the ASA Gottfried E. Noether Junior Award. Two of his Ph.D. students won IMS Lawrence D. Brown Award.

All interested are welcome!

For details, please contact ISOM Department.
