



香港中文大學統計學系

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THE CHINESE UNIVERSITY OF HONG KONG

SEMINAR

DEPARTMENT OF STATISTICS

THE CHINESE UNIVERSITY OF HONG KONG

Provable Learning from Data with Priors: from Low-rank to Diffusion Models

INVITED SPEAKER

Yuejie Chi

Chair Professor

Department of Electrical and Computer Engineering

Carnegie Mellon University

TIME

January 04, 2024 (Thu) · 2:30 pm - 3:30 pm

VENUE

LSB LT2 · Lady Shaw Building LT2 · CUHK

ABSTRACT

Generative priors are effective tools to combat the curse of dimensionality, and enable efficient learning that otherwise will be ill-posed, in data science. This talk starts with the classical low-rank prior, by discussing how the trick of preconditioning boosts the learning speed of gradient descent without compensating generalization in overparameterized low-rank models, unveiling the phenomenon of implicit regularization. The talk next discusses non-asymptotic theory towards understanding the data generation process of diffusion models in discrete time, assuming access to reasonable estimates of the score functions.