

MICHIGAN STATE UNIVERSITY
Department of Statistics and Probability

COLLOQUIUM

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Rates of Approximation for CLT and Bootstrap in High Dimensions

Tuesday, September 14, 2021
10:20 AM - 11:10 AM [Eastern Time](#)
Zoom

Abstract

In the setting of low-dimensional data, it is well known that the distribution of a sample mean can be consistently approximated using the CLT or bootstrap methods. Also, the classical Berry-Esseen theorem shows that such approximations can achieve a rate of order $n^{-1/2}$, where accuracy is measured with respect to the "Kolmogorov distance". However, until recently, it was an open problem to determine if Berry-Esseen type bounds with near $n^{-1/2}$ rates can be established in the context of high-dimensional data --- which stimulated many advances in the literature during the last several years.

In this talk, I will survey these developments and discuss some of my own recent work on solving this problem.

The relevant papers for the talk are available at the following links: <https://arxiv.org/abs/2009.06004> and <https://doi.org/10.1214/19-AOS1844>.

Zoom details can be found at: <https://stt.natsci.msu.edu/stt-colloquium-zoom-info/>

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