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Rates of Approximation for CLT and Bootstrap in High Dimensions

Wednesday, January 27th, 2021
11:45 AM EST

Zoom Meeting: Meeting ID: 965 2242 4782
Password: 129945

Virtual Coffee session before the seminar at 11:30AM EST

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 this problem.

Bio: Miles Lopes is Assistant Professor of Statistics at UC Davis. He received B.S. degrees in mathematics and physics from UCLA, as well as an M.S. in computer science and a Ph.D. in statistics from UC Berkeley, where he was advised by Peter Bickel. His main areas of research are high-dimensional inference and error analysis of randomized algorithms, with an emphasis on bootstrap methods.