Math 278C: Optimization and Data Science Seminar

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Symmetric Tensor Decompositions for Learning Mixture of Gaussians

Abstract:
Gaussian mixture model (GMM) is a fundamental tool in applied statistics and machine learning given data from a weighted sum of several Gaussian distributions. The current practice for learning mixture of Gaussians inevitably has high computational and sample complexity which is exponential in the number of Gaussian components. It has been shown in recent work that such estimation can be reduced to the problem of decomposing a symmetric tensor derived from the moments. The decomposition of these specially structured tensors can be solved efficiently by several methods.

Host: Jiawang Nie

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