

MASTER'S THESIS PRESENTATION

Weighted Averaged Stochastic Gradient Descent: Asymptotic Normality and Optimality

WHEN

February, 23, 2021
11:00 AM, CST

WHERE

Via ZOOM

ZOOM information will be provided in the email announcement for this seminar.



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Stochastic Gradient Descent (SGD) is one of the most simple and popular algorithms in modern statistical and machine learning, for its computational and memory efficiency. Recently, appropriate averaging schemes have been proposed to accelerate the convergence of SGD in different settings. In this paper, we investigate the general averaging scheme for SGD. In particular, we prove the asymptotic normality for a wide range of weighted averaged SGD solutions, and provide the explicit form of their limiting covariance matrix which can be estimated on-the-fly. We also find the optimal weight for the mean estimation model in terms of non-asymptotic mean squared error (MSE).

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