



北京理工大学

数学与统计学院学术报告

Combining pre-trained large models via localized model averaging 通过局部模型平均组合预训练大模型

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摘要: Many pre-trained large models (PLMs) are being released. A popular approach to taking advantage of such PLMs is fine-tuning. However, when the data suitable for the task of interest are rather limited, fine-tuning may not be effective. In this case, weighting the predictions from different PLMs can be a better way to improve predictive performance. Motivated by such applications, we propose a localized model averaging method with weights modeled as functions of the covariates, making it substantially more versatile than existing model averaging methods. Under a general loss framework, we show that the flexible localized weights can be properly trained, and establish an asymptotic optimality property of the proposed method for both in-sample and out-of-sample risks. Extensive numerical experiments further demonstrate the effectiveness of the proposed method.

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