

2022년 제 4회 통계세미나

고려대학교 통계연구소와 BK21 통계학교육연구팀이 다음과 같이 공동으로 세미나를 개최하오니 많은 참여 바랍니다.

일시 : 2022년 4월 29일(금) 오전 11시

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Mixture of Linear Models Co-supervised by Deep Neural Networks

<Abstract>

Deep neural networks (DNN) have been demonstrated to achieve unparalleled prediction accuracy in a wide range of applications. Despite its strong performance, in certain areas, the usage of DNN has met resistance because of its black-box nature. In this paper, we propose a new method to estimate a mixture of linear models (MLM) for regression or classification that is relatively easy to interpret. We use DNN as a proxy of the optimal prediction function such that MLM can be effectively estimated. We propose visualization methods and quantitative approaches to interpret the predictor by MLM. Experiments show that the new method allows us to trade-off interpretability and accuracy. The MLM estimated under the guidance of a trained DNN fills the gap between a highly explainable linear statistical model and a highly accurate but difficult to interpret predictor.

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