

**The Hong Kong Polytechnic University
Department of Applied Mathematics**

Statistics and Data Science Online Colloquium Series

Ada Boost Semiparametric Model Averaging Prediction for Multiple Categories

**By
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Abstract

Model average techniques are very useful for model-based prediction. However, most earlier works in this field focused on parametric models and continuous responses. In this article, we study varying coefficient multinomial logistic models and propose a semiparametric model averaging prediction (SMAP) approach for multi-category outcomes. The proposed procedure does not need any artificial specification of the index variable in the adopted varying coefficient sub-model structure to forecast the response. In particular, this new SMAP method is more flexible and robust against model misspecification. To improve the practical predictive performance, we combine SMAP with the AdaBoost algorithm to obtain more accurate estimations of class probabilities and model averaging weights. We compare our proposed methods with all existing model averaging approaches and a wide range of popular classification methods via extensive simulations. An automobile classification study is included to illustrate the merits of our methodology. Supplementary materials for this article are available online.

Date : 30 April 2021 (Friday)
Time : 14:30-15:30 (Hong Kong Standard Time GMT +8)
Venue : Online Talk via Zoom (Meeting ID: 981 5498 6080)
Speaker : Dr. Jialiang Li, National University of Singapore
Host : Prof. Xingqiu Zhao, The Hong Kong Polytechnic University
Click to join :

<https://polyu.zoom.us/j/98154986080?pwd=QU5ZSHUwd0NKaFFFRVMzc0hiaWQvUT09>



[Click to join \(Zoom\)](#)

***** ALL ARE WELCOME *****

For enrolment, please send your name and email to shuk-wai.ko@polyu.edu.hk on or before 29 April 2021