



## 성균관대학교 응용통계연구소 세미나 안내

응용통계연구소 8월 정기 세미나를 다음과 같이 개최합니다.

- 일 시: 2012년 8월 16일 금요일 오후 4:00 - 6:00
- 장 소: 경영관 4층 33406호

김 혁 선생님 (SUNY at Stony Brook)

- 발표 제목 : A novel combination method  
in classifier ensembles

Classifier ensemble is nowadays one of the most promising directions in classification. In ensemble learning, combining method is used to combine the outputs of the base classifiers. In this presentation, we introduce the new weighted majority voting whose weights are based on the log odds of WAVE. A weight-adjusted voting algorithm for ensembles of classifiers, called WAVE (Kim et al., 2011), is the fundamental factor in our work. It assigns the weight based on the number of the base classifiers classified correctly like the usual weighted majority voting, but is different from the universal weighted majority voting since it also considers the degree of the difficulties for the correctly predicted instances. Then, the weights from WAVE are changed into the form of the log odds after some modification. The weighted majority voting based on our proposed weights are compared with several well-known combination algorithms. Thirty Two data sets are selected and the base classifiers which are made by the algorithm for Random forest are used in this work. The results of the data sets show that Random forest is improved

by using our approach instead of the majority voting. Moreover, our proposed algorithm shows the best performance among other combination algorithms.

## 최 호 식 교수님 (Hoseo University)

- 발표 제목 : A SVM classifier with labeling errors  
through a regularization solution surface

The support vector machine (SVM) has been established as a representative methodology for many learning problems. In this paper, we consider binary classification problem with labeling errors on output and propose a general SVM to deal with such noisy data. The proposed method provides a level set of decision boundaries including the traditional SVM. In addition, we introduce a novel homotopy algorithm for developing regularization solution surfaces involving a piecewise linear penalty and hinge loss function. This permits efficient computation and adaptive tuning. From numerical studies, the proposed method compares well against popular alternatives. methods for nonsmooth estimating functions that avoids full blown bootstrap. Simulation studies suggest that the recommended procedure provides fast and valid inferences among several competing procedures. Application to a tumor study demonstrates the utility of the proposed method in routine data analysis.

## 성균관대학교 응용통계연구소

Homepage: <http://stat.skku.ac.kr/rias/>

☎ 02-760-1295

e-mail: [riasmaster@skku.edu](mailto:riasmaster@skku.edu)