

AAI Advanced Analytics Seminar Series on 27/06/2012

Seminar Title: Classification learning based on information theory

Speaker: Professor Baogang Hu, National Laboratory of Pattern Recognition (NLPR), Institute of Automation, Chinese Academy of Sciences, Beijing China.
Member, IEEE.

Date and Time: 1:30pm to 3:00pm, the 27th of June 2012 (Wednesday)

Seminar Room: UTS City Campus Building 10 CB10.03.330 (2 minutes walk from Tower Building CB01 of UTS)

Seminar Chairman: Prof Longbing Cao (longbing.cao@uts.edu.au)

Abstract: This talk introduces our recent study on information theoretical learning (ITL). By comparing with the conventional performance-based approaches, I will show that ITL presents unique features which have not been reported before in classifications. Three parts of the study will be given in the talk:

- Information measures for objective evaluations of classifications including “error types” and “reject types”;
- theoretical comparisons between Bayesian classifiers and mutual information classifiers in cost sensitive learning and abstaining learning;
- analytical bounds between entropy and errors for Bayesian and non-Bayesian types.

Our findings confirm that ITL provides a new perspective for understanding some learning mechanisms or decision rules in our daily life. I will also present personal viewpoints on the cons and pros of ITL.

Short biography of the speaker: Baogang Hu received his Ph.D. degree in 1993 from Department of Mechanical Engineering, McMaster University, Canada. Currently, he is a professor of National Laboratory of Pattern Recognition, Institute of Automation, Chinese Academy of Sciences (CAS), Beijing, China. From 2000 to 2005, he served as the Chinese Director of “Chinese-French Laboratory of Information, Automation and Applied Mathematics” (LIAMA) sponsored by CAS(China), INRIA(France), CNRS(France), and CIRAD(France). His current researches include plant growth modelling and machine learning.

Overview to This Seminar Series

The Advanced Analytics Seminar Series presents the latest theoretical advancement and empirical experience in a broad range of interdisciplinary and business-oriented analytics fields. It covers topics related to data mining, machine learning, statistics, bioinformatics, behavior informatics, marketing analytics and multimedia analytics. It also provides a platform for the showcase of commercial products in ubiquitous advanced analytics. Speakers are invited from both academia and industry. It opens regularly on every Friday afternoon at the garden-like UTS Blackfriars Campus. You are warmly welcome to attend this seminar series.

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