



The Chinese University of Hong Kong
Department of Statistics

Seminar

Improving Attribute Classification Accuracy in
High-dimensional Data:
A Four-step Latent Regression Approach

By

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Abstract

Cognitive diagnosis modeling (CDM) aims to provide detailed and actionable feedback on a set of finer-grained attributes. For feedback to be informative, the attribute size (i.e., number of attributes) must be large. However, current computational constraints limit the attribute size to about 15. The accordion procedure (AP) has been proposed to handle much larger attribute sizes by focusing on one subset of attributes at a time, and creating nuisance attributes by collapsing the attributes of the remaining subsets. In this study, covariates are incorporated to supplement information obtained from AP. A four-step latent regression approach, which is both computationally manageable when high-dimensional data are involved and flexible when specifications at each step need to be adjusted, is proposed. A simulation study is conducted to examine the performance of the proposed approach. Results demonstrate that incorporating covariates can improve the AP correct classification rates particularly when the test alone is not sufficiently informative.

Date: February 19, 2019 (Tuesday)
Time: 2:30 p.m. - 3:30 p.m.
Venue: Science Centre L2
The Chinese University of Hong Kong

ALL INTERESTED ARE WELCOME !!