The Hong Kong University of Science and Technology

Department of Mathematics

MPhil THESIS EXAMINATION

Matrix Recovery with the Awareness of Covariate Information and Variable Selection

By

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ABSTRACT

In this thesis, we propose the variable selection process in the matrix recovery task with the consideration of covariate information, by shrinking the size of factors used in predicting unobserved matrix entries. Matrix completion has attracted a wide range of attention in recent years, where there are various applications including: recommender system, image processing and video denoising. Here we review the existing matrix completion literature, and further discuss the current methods who have considered the improvement contributed by additional covariate information. Expanding current matrix recovery method with covariate information, we implement variable selection to factors assisted and further improve the prediction performance.

Date	:	**12 Aug 2019, Monday**
Time	:	**03:00 p.m.**
Venue	:	**Room 3494 (near lifts 25-26)**
Thesis Examination Committee	:	**Prof. Can YANG (Chairman)** **Prof. Bingyi JING (Supervisor)** **Prof. Dong XIA**

(Open to all faculty and students)

The student's thesis is now being displayed on the reception counter in the General Administration Office (Room 3461).