



The Hong Kong University of Science and Technology

Department of Mathematics

MPhil THESIS EXAMINATION

Multi-Label Learning by Leveraging Class Information and Correlations

By

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ABSTRACT

Multi-label learning is a ubiquitous and important problem, where one instance can be assigned to multiple classes simultaneously. We proposed a deterministic and transductive model, which consists of label consistency, instance-level label smoothness, class-level label smoothness and class cardinality bounds. Assuming instances of different classes lie in different low-dimensional subspaces, the graph Laplacian for instance-level smoothness can be more accurate. Another challenge for multi-label learning is class imbalance, which can lead to significant performance degradation. Class cardinality bounds is introduced to handle class imbalanced. Experiment results demonstrate some robustness of our model and also indicate several aspects for further improvement.

Date : **06 January 2021, Wednesday**

Time : **4:00 p.m.**

ZOOM Meeting : <https://hkust.zoom.us/j/96343869189>
(Passcode: 409960)

Thesis Examination **Prof. Hai ZHANG (Chairman)**

Committee : **Prof. Yuan YAO (Supervisor)**

Prof. Can YANG

(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).