

**DEPARTMENT OF COMPUTER SCIENCE**

**PhD Degree Oral Presentation**

PhD Candidate:	Mr Yang LU
Date	26 August 2019 (Monday)
Time:	10:30 am - 12:30 pm (35 mins presentation and 15 mins Q & A)
Venue:	RRS732, Sir Run Run Shaw Bldg., HSH Campus

***“Advances in Imbalanced Data Learning”***

**Abstract**

Imbalanced data learning is to analyze such data whose distributions of sample points are seriously skewed among different classes / groups. Under the circumstances, the number of data in one class (called minority or positive) is often underrepresented and severely overwhelmed by another class (called majority or negative). As a result, usual machine learning methods will generate poor results under the environment of imbalanced data learning. As far as we know, the problem of learning from imbalanced data is nontrivial and one of the challenges in the field of data engineering and machine learning, which has attracted growing attention in recent years. In this thesis, we therefore focus on four aspects of imbalanced data learning: ensemble framework for imbalanced data classification, online learning for imbalanced data stream with concept drift, clustering on imbalanced data, and theoretical measurement of imbalance impact. For each aspect, we figure out the key research problems and propose corresponding novel methods. Extensive experiments on synthetic and real-world datasets are carried on to verify the superiority of the proposed methods compared with the state-of-the-art methods.

**\*\*\* ALL INTERESTED ARE WELCOME \*\*\***