

# **CAP-6778 Advanced Topics in Data Mining**

## **Catalog Description**

Topics such as web data mining, stream data mining, relational data mining, tree/graph mining, spatiotemporal data indexing and mining, privacy-preserving data mining, high-dimensional data clustering, basics of natural language processing, social network and linkage analysis. (3 credits)

## **Prerequisites**

COP 5577 or Permission of Instructor

## **Type**

Elective graduate courses

## **Course Objectives**

This is a seminar course that will focus on recent developments of advanced data mining techniques and their applications to various problems.

## **Topics**

- Overview of Basic Data Mining Techniques
- Large-scale Data Mining
- Similarity Search (including minwise hashing and locality sensitive hashing)
- Mining Data Streams
- Mining Social Networks
- Dimensionality Reduction
- Spectral Clustering
- Matrix Factorization
- High-Dimensional Data Clustering
- Ensemble Methods in Data Mining
- Web Applications (including advertising, recommendation, and summarization)

## **Textbook**

Handouts will be provided

## **Last Update**

Tao Li 10/30/2012