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