

CAP 6673 Data Mining and Machine Learning

Credits: 3 credits

Text book, title, author, and year: (1)_Data Mining: Practical Machine Learning Tools and Techniques, by I.H. Witten and E. Frank

(2) Selected articles and papers are posted on the course we site.

Reference materials: None

Specific course information

Catalog description: This course deals with the principles of data mining. Topics covered include machine learning methods, knowledge discovery and representation, classification and prediction models.

Prerequisites: Prerequisites: COP 3530 Data Structures and STA 4821 Stochastic Models for CS. CAP 6673 can be used as a technical elective in all CS and CE graduate programs.

Specific goals for the course: To enable students to understand basic concept of data mining and machine learning algorithms with an emphasis on real world applications.

Brief list of topics to be covered:

1. What's all about?
2. Input: Concepts, instances, attributes
3. Output: Knowledge representation
4. Algorithms: The basic methods
- 5: Divide and conquer: Constructing decision trees
- 6: Credibility: Evaluating what's been learned
- 7: Implementations: Real machine learning schemes
- 8: Transformations: Engineering the input and output
- 9: Moving on: Engineering the input and output
- 10: Nuts and bolts: Machine learning algorithms in JAVA