CSC442 KNOWLEDGE DISCOVERY AND DATA MINING

Learning Outcomes

- Define knowledge discovery and data mining terminology.
- Describe the use and applications of data mining.
- Explain the data mining tasks, the KDD process, domain information, data visualization and the issues and challenges.
- Apply different data mining algorithms on data.
- Interpret data mining results.
- Analyze data mining results.
- Explain different data mining applications.
- Assess different data mining applications.

Content

Overview of KDD and Data mining: data mining, KDD process; KDD and related fields; Pre-processing Data: Data Quality, Data Transformation, Missing Data, Data Reduction; Data mining tasks: classification, clustering, etc; Data Mining with different algorithms: decision trees, artificial neural networks, instance based learning, etc; Data warehousing: data warehouses, data marts; Data visualization: cubes, sparse matrices; Evaluation and Use of Discovered Knowledge: Error calculations, domain information; Data mining applications.

Pre-requisites

CSC122 Database Systems
CSC323 Machine Learning
CSC412 Knowledge-based Systems

Delivery

Lectures, Tutorials, Case studies, Lab exercises and assignments using data mining software.