Business Analytics

2020 Fall

School of Industrial Management Engineering, Korea University

1. Course Description
   - This module aims to provide students with the theoretical and practical knowledge and skills to obtain, modify, and analyze a large amount of data from various sources
   - Topics covered in this module include basic association rules, supervised learning algorithms (classification & regression) such as linear/logistic regression, decision tree, artificial neural networks, and unsupervised learning algorithms (clustering) such as K-Means clustering and hierarchical clustering
   - This module comprises lectures and lab exercises with R to develop the practical skills
2. Lecturer
   - Pilsung Kang, Innovation Hall 801A, 02-3290-3383, pilsung_kang@korea.ac.kr
   - Course homepage: https://github.com/pilsung-kang/Business-Analytics-ITS504-
3. Textbook
   - Textbook: No single textbook is required. Lecture slides and associated materials (R script, data sets, etc.) will be provided through the blackboard and course homepage
4. Introduce Yourself
   - ✓ Submit your self-introduction slide (max. 5 pages) to the lecturer via E-mail
   - ✓ Required information: Name, department, e-mail, cell phone number, recent photo(s)
5. Assessments
   - 2 exams (Midterm & Final exams, 30% each): 2 pages of cheating papers are allowed
   - 1 Final Project (40%)
6. Schedule

Week	Topics
1	Orientation
2	Multiple Linear Regression
3	R Exercise: Multiple Linear Regression
4	Logistic Regression
5	R Exercise: Logistic Regression
6	Decision Tree
7	R Exercise: Decision Tree
8	**Midterm Exam**
9	Dimensionality reduction
10	R Exercise: Dimensionality reduction
11	Artificial Neural Network
12	R Exercise: Dimensionality reduction
13	Clustering
14	R Exercise: Clustering
15	Association Rule Mining & R Exercise
16	**Final Exam & Project Report Submission**