KAIST Graduate School of Information & Media Management
Data Mining for Intelligent Marketing [IM623]
Fall 2017

Class hours	Tuesday and Thursday 10:00 am – 11:300 am
Classroom	TBD
Instructor	Juhee Kwon (권주희) Office : TBD (TEL: TBD) Email :
Office hour	Walk-in or by appointment
Teaching Assistant	TBD
Prerequisites	None - Basic statistics concepts would be helpful.
Required Texts	Data Mining for Business Intelligence: Concepts, Techniques, and Applications in Microsoft Office Excel with XLMiner 3th Edition, 2016, John Wiley & Sons, Inc.
Recommended References	· SAS Enterprise Miner 4.0 를 이용한 데이터마이닝, 강현철 외 4인 · Building Data Mining Applications for CRM, A. Berson, S. Smith, and K. Thearling · Michael J.A. Berry and Gordon S. Linoff, *Data Mining Techniques: For Marketing, Sales, and Customer Relationship Management*. John Willey & Sons, 2011.
Course Software	XLMiner, ECMiner, or SAS E-Miner, R

Course Objectives

We are in the era of big data. Large volume of data could reveal useful information about customers, products or other strategic aspects. This course aims to equip students with knowledge and skills to extract information and knowledge from vast amount of data and discover actionable insights. It emphasizes on the current issues, methodologies, practice, and emerging trends in business intelligence and analytics. Students will learn state-of-art techniques and critical skills to address existing business problems in today's information-rich environments. Upon completing this course, students will build their analytical capabilities to use data for innovative business solutions.

Course Schedule

Week#	Date	Topic	
1	Aug 29	Introduction to Data Mining	
	Aug 31	Introduction to Data Mining Tools (i.e., XLMiner, DB)	
2	Sep 5	Data Mining Process	Get to Know Data
	Sep 7	Lab Practice (e.g., Database, SQL, etc.)	
3	Sep 12	Basic Statistics and Data Exploration	
	Sep 14	Lab Practice (Data Exploration)	
4	Sep 19	Dimension Reduction Methods	Unsupervised learning
	Sep 21	Lab Practice (Principal Components Analysis)	
5	Sep 26	Association rules/Market Basket Analysis	
	Sep 28	Lab Practice (Association rules)	
6		No Class	
7	Oct 10	Clustering Analysis	
	Oct 12	Lab Practice (Clustering Analysis)	
8		Mid-Term Exam	
9	Oct 17	Regression	Supervised Learning
	Oct 19	Lab Practice (Regression)	
10	Oct 24	Logistic Regression	
	Oct 26	Lab Practice (Logistic Regression)	
11	Oct 31	*k*-NN Neighbors	
	Nov 2	Lab Practice (*k*-NN Neighbors)	
12	Nov 14	Decision Tree	
	Nov 16	Lab Practice (Decision Tree)	
13	Nov 21	Neural Network	
	Nov 23	Lab Practice (Neural Network)	
14	Nov 28	Discriminant Analysis	
	Nov 30	Lab Practice (Discriminant Analysis)	
15		Project Presentation	
16		Final exam	

* ***This schedule is tentative.***

Assessment Tasks/Activities

AT1: Lecture, Laboratory Exercises and Participation (30%)

Each lecture and laboratory may consist of exercises, small group discussions, self-reflection, or student presentations to assess students' abilities to apply their skills.

- *Lab exercises:* Hands-on activities using a data-mining tool (i.e., XLMiner).

AT2: Group Project (30%)

A group project, which includes a project report and presentation, will be allocated to let students apply data mining concepts and techniques to solve business (e.g., marketing) problems.

AT3: Examination (40%)

A written examination to assess students' competence of the taught subjects

Grading

Class Participation (Individual)	**10%**
Lab Exercises (Individual)	**10%**
Assignments (Individual)	**10%**
Group Project (Group)	**30%**
Exam (Individual)	**40%**
Total:	**100%**