MIS4311
Machine Learning Applications

Fall 2025

Lecture #1

Contact Information

- **Instructor:** Mahmut Bağcı
- **Email**: mahmut.bagci@marmara.edu.tr
- **Office:** Faculty of Business Administration (I2)– 208
- **Office hours**: Monday 13:00 -15:00 AM
  Wednesday 13:00 -14:00 PM

Text Books and References

- Machine Learning: An Algorithmic Perspective (Second Edition) by Stephen Marsland, CRC Press, 2015.

Grading

Assesments	Number	Percentage
Participation	14 weeks	(10% of midterm and 10% of final exam)
Midterm Exam	1	50 %
Final Exam	1	50 %

*Participation will be measured by lecture attendance.

If you miss more than 4 classes, you can't take your final exam!

Course Format

- Lecture files and documents will be posted shortly after (or before) the lecture on **CLOUD (Bulut) system**.

  (The cloud link will be shared with you, soon)

- Check **Bulut system** page of the course every day!

Course Format

- **Many issues discussed in the lectures will be covered in the exams**

  *Hence try to attend lectures regularly.

- **Will not cover ALL materials on the slides**

  *Attending lectures will tell you which is covered and which is not.

There may be some brief review before each exam.

Course Outline

- This course is designed to teach and implement machine learning algorithms. The topics of this course include practical applications of supervised and unsupervised learning algorithms, artificial neural networks, natural language, audio and image processing.

Course Schedule

Week	Topics
1	Introduction to Machine Learning
2	Supervised Learning : Classification and Regression
3	Logistic Regression
4	Naïve Bayes' Classifier
5	Support Vector Machines (SVMs)
6	Decision Trees, K-Nearest Neighbors (KNNs)
7	Unsupervised Learning : Clustering (K-means)
8	**Midterm Exam**
9	Artificial Neural Networks (ANNs)
10	Processing time series data
11	Visualizing audio data and speech recognition
12	Natural Language Processing (NLP)
13	Genetic Algorithms
14	Image Processing
15	Reinforcement Learning
	Final Exam

Next Week

- Introduction to Machine Learning
- Supervised Learning: Classification and Regression

Thank you for your participation ☺