**Instructor:** B. Melis ÖZYILDIRIM (E-mail: mozyildirim\_at\_cu.edu.tr)

**Lecture Hours:** 13:30 , Computer Engineering Department

**Course Description:**

This course introduces machine learning algorithms used for solving classification and regression problems. It covers both theoretical and practical approaches.

**Textbooks:**

“Machine Learning An Algorithmic Perspective”, Stephen Marsland,2014

 “Machine Learning”, Tom Mitchell, McGraw Hill, 1997

 “Introduction to Machine Learning, 3e”, Ethem Alpaydın, The MIT Press, September 2014

 “Pattern Recognition and Machine Learning”, Christopher M. Bishop, 2006

 Lecture Notes Andrew Ng, “http://cs229.stanford.edu/materials.html”

# Course Schedule:

Week 1: Introduction (Learning Types, Regression and Classification)

Week 2: ----------------------------------------------------------------------------

Week 3: Preliminaries

Week 4: Neural Networks

Week 5: Dimensionality Reduction

Week 6: Probabilistic Learning

Week 7: Support Vector Machines

Week 8: Learning Algorithms

Week 9: Decision Trees

Week 10: Ensemble Learning

Week 11: Unsupervised Learning

Week 12: Reinforcement Learning

Week 13: Deep Learning I

Week 14: Deep Learning II

**Grading**: Homework 40%, Final exam 60 %.

**Notes:**  Follow **aves.cu.edu.tr/mozyildirim**