Course Code:

Course Title: SELECTED TOPICS IN ELECTRICAL AND COMPUTER ENGINEERING: SEMI-SUPERVISED AND UNSUPERVISED LEARNING

Instructor(s): MTSEZGIN

The scope of this course is to review the fundamentals of unsupervised and semi-supervised learning. We will explore the key ideas and the algorithms in the areas such as deep learning and epitome learning. Clustering methods and similarity measures will also be covered. Ultimate aim of the course is to provide a basic understanding of these topics such that the research students can orient themselves in the relevant literature and understand the current state of the art.

 Machine learning and Cross Validation: This class, will explore the key idea  
> that how machine learning approaches can classify a data from pre-given data  
> and how cross validation can be used in machine learning's evaluation  
> process.  Main Topics: Decision tree learning, artificial neural networks,  
> support vector machines, bayesian networks, clustering, K-fold  
> cross-validation, Leave one out cross validation, the usage of cross  
> validation methods in machine learning evaluation process, practical  
> considerations.

Main Topics: Unsupervised and semi-supervised learning, deep learning, epitome learning, decision tree learning, artificial neural networks, support vector machines, bayesian networks, clustering, K-fold cross-validation, Leave one out cross validation, the usage of cross validation methods in machine learning evaluation process and practical considerations.

Course Title: SELECTED TOPICS IN ELECTRICAL AND COMPUTER ENGINEERING: SEMI-SUPERVISED, UNSUPERVISED LEARNING AND CROSS VALIDATION

The scope of this course is to review the fundamentals of unsupervised and semi-supervised learning in addition to exploring machine learning approaches regarding cross validation. We will explore the key ideas and the alghorithms in unsupervised and semi-supervised learning as well as focusing on how cross validation can be used in machine learning's evaluation process. Ultimate aim of the course is to provide a basic understanding of these topics such that the research students can orient themselves in the relevant literature and understand the current state of the art.

Ders Adı: Elektrik ve Bilgisayar Mühendisliğinde Seçilmiş Konular:

Bu dersin amacı gözetimsiz ve yarı-gözetimli öğrenmenin temelleri ile çapraz doğrulamanın makine öğrenimi yaklaşımlarını incelemektir. Bu derste gözetimsiz ve yarı-gözetimli öğrenmenin kilit fikirleri ve algoritmaları ile çapraz doğrulamanın makine öğrenimi değerlendirme sürecinde nasıl kullanılabileceği incelenecektir. Bu dersin esas amacı; araştırma öğrencisine bu konuların temel düşünce yapısını vererek kendisini literatüre aşina kılmak ve son gelişmeleri takip etmesini sağlamaktır.