



Data Science for the Public Good Bootcamp – İstanbul

1. Introduction to Programming

- a. Basic Python - variables, methods, loops, conditions, list comprehensions..
- b. Approximate solutions
- c. Datetime
- d. Plotting with matplotlib - Line Plot, Bar Plot, Pie Chart, Stack Plot, Histograms, Time series, Plotting with Live data, Subplots
- e. Try-Except
- f. Regex
- g. Numpy
- h. Pandas
- i. Object Oriented Programming
- j. Generators
- k. Decorators

2. Basic Statistics

- a. Measures of Central Tendency
- b. Measures of Variability
- c. Correlation
- d. Variance of sum of random variables

Not: Seçmeli ders programı olarak düzenlenen bu bölümde katılımcı kişilere algoritmik beceriyi kazandırmak ve temel konulara giriş yapılması planlanmıştır. Bu programı sadece seçilen kişilerden isteyenler almalıdır.

1. Model is not something that just predicts - Model driven EDA

- a. Regression using Random Forest
- b. Understanding Bagging
- c. Understanding Ensemble methods - Random errors
- d. Why to have train-validation-test set instead of train-test set
- e. No cross validation and random sampling are not always good
- f. Permutation Feature Importance
- g. How to select subsample size ?
- h. Profiling for speeding up your model
- i. Partial Dependence
- j. Why do Tree based algorithms have extrapolation problem?
- k. How to deal with extrapolation problem

2. Deep Learning

- a. Baseline model
 - i. What is that, and why is it helpful ?
 - ii. Creating Baseline for image classification
- b. Why is Gradient the direction of greatest increase ?
- c. Foundation of Neural Network -Everything can be thought of as functions
- d. Why to use sigmoid, really ?
- e. Adding Non-linearity
- f. Understanding Regularization
- g. Multi-class classification
- h. Introduction to NLP
- i. Naive Bayes
- j. Sentiment analysis with neural networks
- k. Sentiment analysis with neural networks using Naive Bayes knowledge
- l. Entity embeddings