

Data 533 Lab 2 – Python Modules and Packages

Group:

Eric Phillips

Poojitha Gowthaman

Outline:

- Package: “KNN”. Allows user to build a KNN classifier/regressor, generate predictions, assess model, and tune K hyperparameter.
 - Subpackage 1
 - Module 1: Data input/pre-processing, model creation
 - A constructor to create a model object with attributes “K” and type (classifier/regressor)
 - A method to load in a dataset from a CSV and identify response/predictors
 - A method to perform a test/train split on inputted dataset
 - Module 2: Generating predictions
 - A method to compute Euclidean distance
 - A method to generate a single prediction using KNN in training data
 - A method to return a list of predictions
 - Subpackage 2
 - Module 1: Model assessment metrics
 - A method to compute test accuracy
 - A method to compute test RMSE
 - A method to compute test MAPE
 - Module 2: Hyperparameter tuning
 - A method to perform K-fold cross validation to tune K hyperparameter
 - A method to visualize results of cross validation on a graph
 - A method to access cross validation results