DATA SCIENCE

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Semester: B

1. Semester A – mushrooms Classification

In this Classification Notebook I uploaded to the Kaggle in the link
https://www.kaggle.com/galkoaz/mushroom-classification-knn-randomforest-100

With get the Bronze Medal with 100% precent accuracy

Models and methods used:

- RandomForest
- CrossVal
- Confusion Matrix
- ROC Curve
- XGB Classifier
- Dummy Classifier
- KNN Classifier

2. Fashion-MNIST

In this Notebook we asked to deal with data frame consist items (boots, t-shirt .. etc)

And create the best model with the best accuracy, I choose to use “PCA” – dimensionality reduction – to reach the maximum accuracy with the minimum dimensions.

Models and methods used:

- KNN Classifier
- RandomForest
- XGB Classifier
- GaussianNB
- Grid-Search
- StackingClassifier
- BaggingClassifier

3. Cats vs Dogs

In this Notebook we asked to deal with data frame of pictures (Dogs, Cats), and find the best model give us the best accuracy.

Models and methods used:

- Random Forest
- Confusion Matrix
- XGB Classifier
- Grid-Search
- KNN Classifier
- GaussianNB
- Stacking Classifier
- Bagging Classifier

4. Hands Movement

The purpose of the Project is to classify between three different situations in the way people communicate with each other. The first is Spontaneous (autonomous) situation in which two people move their hands freely in front of each other. The second is a synchronous movement in which the two people move their hands together and the third is a movement in position Own. Where only one side moves the hands.

explanation:
First, we want to see what our data frame looks like.

Second, we will look for null values and an imbalance in the number of hands right to left in the number and also in the type ie (2,1) & (Right, Left), if there is an imbalance we will use the functions we have already registered to delete the unwanted number of hands and their type. In the RefreshData function to reset the indexes and correct null values. We will perform the process in each of the files and finally make sure that our data is indeed clean. We will connect the "RightHand" file to the "Alone" file by using the MergeRightHand function.

Finally, with the help of the MergeR function, we will delay all the files into one large data frame with which we can proceed to the next step.

Models and methods used:

- Random Forest
- Confusion Matrix
- XGB Classifier
- Grid-Search
- KNN Classifier
- GaussianNB
- Stacking Classifier
- Bagging Classifier