Alexandria University
Faculty of Engineering
Computer and Communications Program



Due: Monday 12/3/2018 CCE: Pattern Recognition

Sheet#4 Decision Trees

1. Written Problems:

Answer exercises Q2, Q3, Q5 from the book. pages 495, 496

2. Coding

- a. Use the Face-data set we used in Assignment 1. Use the 50-50 Split for train-test split.
- b. **Implement your** Decision Trees Classifier. Use Information Gain as a splitting measure.
- c. Apply your algorithm on the first 50 ,100 and 150 components using PCA separately.
- d. Compare and comment on the results
- e. Use the Random Forest classifier in Scikit learn. Use Original Data
 - i. Tune the number of trees {10,30,100,300}
 - ii. Tune the tree criterion "gini" vs. "Entropy"
- f. Repeat part (e) using the 100 PC's in part (c).

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