

MIS 637 – A Midterm

(100 points)

1.
 - a. List all Knowledge Discovery steps and explain the meaning of each step.
 - b. To be successful at Data Science, one needs knowledge from three different fields. List these fields and explain how you see the knowledge is used.(10 points)
2. Define supervised and unsupervised learning and for each, give two types of problems that are solved with supervised and unsupervised learning.
(20 points)
3.
 - a. Define 5 basic concepts of a decision tree.
 - b. What are two different decision tree algorithms, we defined in class and how they are different from each other?(20 points)
4. Define two methods of evaluation for supervised learning. Explain how these two methods are used in conjunction to understand the performance of a machine learning method. (10 points)
5.
 - a. Define underfitting and overfitting.
 - b. Define Bias – Variance Trade off.(20 points)
6.
 - a. Define ensemble method and list two ensemble methods.
 - b. List one decision tree-based ensemble algorithms for each ensemble method you defined in (a).(20 points)