**ML520 – Lesson 2 Instructions**

**Problem Statement:** Use the data\_banknote dataset to create a decision tree from scratch. While you can use a package that just creates the tree for you the goal of this assignment is to understand the logic behind decision trees and write it from scratch.

**Resources:**

* **Assignment Location**
  + <https://labs.vocareum.com/lti/vclab.php?course=vc_2_0_102620216178558da9c6c&assignment=591725>
  + Canvas → Modules → Lesson 2: Decision Tree → Lesson 02 Lab Assignments
* **Files**
  + The files can be found in the Vocareum environment and can be found under the Module for each week
  + Assignment File - ML520 – Lesson2
  + Data Files
    - data\_banknote\_authentication.csv

**Grading Rubric:**

* Please submit by midnight on the due date or email the TA – Lauren Jensen [jensenl2@uw.edu](mailto:jensenl2@uw.edu) – if you need an extension
* Please complete the assignment in either Vocareum or Jupyter environments

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Criteria** | **Score** | | | **Total Points** |
| Building the Model - Generation and accuracy of your models, including evaluating your algorithm using the confusion\_matrix and classification\_report | 15 pts Excellent or good | 7 pts Satisfactory | 0 pts Unsatisfactory or Missing | 15 pts |
| Exploring Data – Analysis it for outliers, cleaning it, graphs, etc. | 5 pts Excellent or good | 3 pts Satisfactory | 0 pts Unsatisfactory or Missing | 5 pts |
| Explaining Reasoning – summarizing your models results, discussing insights (with words). Simple producing models and graphs without explanations does not work | 5 pts Excellent or good | 3 pts Satisfactory | 0 pts Unsatisfactory or Missing | 5 pts |
| **Total** |  |  |  | **25** |