**ML520 – Lesson 3 Instructions**

**Problem Statement:** Use the Internet\_Ad\_Data dataset to create a random forest, extra trees, and gradient boosted trees and you are allowed to use the package (you don’t have to build it from scratch). The goal is to utilize Grid Search so that you can begin to select optimal parameters.

**Resources:**

* **Assignment Location**
  + <https://labs.vocareum.com/lti/vclab.php?course=vc_2_0_102620216178558da9c6c&assignment=591727>
  + Canvas → Modules → Lesson 3: Random Forest & Gradient Boosted Trees → Lesson 03 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 – Lesson3
  + Data Files
    - Internet\_Ad\_Data.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

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| **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** |