**CSCE 623: Machine Learning**

**Spring 2019**

**HW2 GRADING WORKSHEET**

Due Tuesday, 23 Apr at 2359

Submit via Blackboard

**(**This Instructor-Graded portion of your Homework is worth 5 points toward your course grade**)**

**Comparing 2-feature Logistic Regression, LDA & QDA: Student Name: NEWLIN**

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| --- | --- |
| Course points earned | 4.2 |

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| --- | --- | --- | --- | --- |
| Step | Step Evaluation Criteria | Avail  points | Student performance | Student Score |
| 1 | Load data | 1 |  | 1 |
| 2 | Explore data (plot with axis labels) | 1 |  | 1 |
| 3 | Discuss data covariance & make prediction about best classifier | 2 |  | 2 |
| 4 | Function to Split test and training data, handle unevenness | 2 |  | 2 |
| 5a | Fit Logistic Regression | 1 |  | 1 |
| 5b | Fit LDA | 1 |  | 1 |
| 5c | Fit QDA | 1 |  | 1 |
| 6 | Get LR, LDA, QDA probabilities on test set | 1 |  | 1 |
| 7 | Build function getRocData that returns performance measures for prob thresholds – dataframe [n x 10] | 3 |  | 3 |
| 8 | Generate 100 probability thresholds; Obtain 9 values of LR, LDA, QDA performance on threshold values | 3 | Not sure what you did. I was expecting 3 datasets x 3 classifiers per dataset x 100 probability thresholds. It looks like you merged all of the dataset predictions together and created sort of ‘average’ ROC for each classifier over all the data. | 1 |
| 9 | Plot ROC for LR, LDA, QDA & label axes | 3 | Expecting to see 1 curve per classifier per dataset. 3 classifiers per graph, where each graph is a dataset. | 1 |
| 10 | Build code & Compute AUC for each ROC (3 classifiers x 3 datasets) | 3 | Expecting to see 1 AUC per classifier per dataset. 3 classifiers per graph, where each graph is a dataset. | 1 |
| 11 | Determine best performance points Acc/Prec/Recall/F-measure and gen Confusion Matrix for each point for each classifier (36 = 4 x 3 x 3) | 3 | Expecting 36 best values instead of 12 “average” values | 1 |
| 12 | Annotate ROC & Discuss where best points on ROC live | 1 |  | 1 |
| 13a | Answer question A & provide support | 2 |  | 2 |
| 13b | Answer question B & provide support | 2 |  | 2 |
| Holistic Grade | Grade = 0 if some recommendations are missing or all recommendations are provided, but at least some of the recommendations provide no supporting evidence.  Grade = 10 if all recommendations are present and provide evidence, but at least some evidence is confusing, misleading, or doesn’t support the conclusion.  Grade = 20 if all recommendations are present and convincing evidence is provided for each conclusion. | | | 20 |
|  |  |  |  |  |
| TOTAL |  | 50 |  | 42 |

**Suggestions for improvement:**

Read directions carefully; ask a question if something is unclear.