	Ideal Score	**Andrew Abbott** Team: Abbott Score	Instructor Notes
Total Points	20	16.2	Score Points: 16.20
Total Percentage	100	81	This was a huge improvement. As such, if you send me a better decription of the deployment, I won't penalize by removing the exceptional work. You can also resubmit the statistical comparisons for credit.
Exceptional Work	10	9	Grid searching was employed, but not used systematically throughout for all the classifiers. Also used were more than three classifier types.
Define and prepare your class variables. Use proper variable representations (int, float, one-hot, etc.). Use pre-processing methods (as needed) for dimensionality reduction, scaling, etc. Remove variables that are not needed/useful for the analysis.	10	10	Free. Looks like its already in the right format for sklearn!! > Good adjustments made for task 2.
Describe the final data set that is used for classification/regression (include a description of any newly formed variables you created).	5	4	Good. I wanted a bit more on how the data was collected but this is mostly sufficient.
Choose and explain your evaluation metrics that you will use (i.e., accuracy, precision, recall, F-measure, or any metric we have discussed). Why are the measure(s) appropriate for analyzing the results of your modeling? Give a detailed explanation backing up any assertions.	10	7	It appears like you are using confusion matrices and accuracy, but you never explain why this is appropriate. In actuality, I think you should be using a cost matrix with custom values for the cost of each confusion. For instance, is confusing a spruce for a douglas fir as bad as confusing two pines?
Choose the method you will use for dividing your data into training and testing splits (i.e., are you using stratified 10-fold cross validation? Why?). Explain why your chosen method is appropriate or use more than one method as appropriate.	10	7	Using only a single hold out is insufficient for monitoring performance. You really need to be using repeated stratified hold out here. You won't get bounds of agreement with a single split. Later on you use 10-fold cross validation but the use is not consistent in the notebook.
Create three different classification/regression models (e.g., random forest, KNN, and SVM). Two modeling techniques must be new (but the third could be SVM or logistic regression). Adjust parameters as appropriate to increase generalization performance using your chosen metric.	20	18	You need one more classifier (SGD uses logistic regression by default so its not actually different). Otherwise I liked the analyses here and the grid searching. > Many more models where attempted on task 2, so I am giving lots of partial credit.
Analyze the results using your chosen method of evaluation. Use visualizations of the results to bolster the analysis. Explain any visuals and analyze why they are interesting to someone that might use this model.	10	10	Confusion matrices count here and good discussion.
Discuss the advantages of each model for each classification task, if any. If there are not advantages, explain why. Is any model better than another? Is the difference significant with 95% confidence? Use proper statistical comparison methods.	10	6	Good discussion, but no statistical comparisons carried out. Are most of the models statistically the same?
Which attributes from your analysis are most important? Use proper methods discussed in class to evaluate the importance of different attributes. Discuss the results and hypothesize about why certain attributes are more important than others for a given classification task.	10	10	importances as judegd by Decision trees are more reliable here than logistic regression because the features are not normalized. You concluded as much by noticing that there were some suytematic differences.
How useful is your model for interested parties (i.e., the companies or organizations that might want to use it for prediction)? How would you measure the model's value if it was used by these parties? How would your deploy your model for interested parties? What other data should be collected? How often would the model need to be updated, etc.?	5	0	Need more discussion of how this model would be deployed. Do you care about training time? Is it mostly just for feature importances? Or is this going to ba a screening tool?