LOGS

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| Experiment # | Classifier | Cross-Validation fold | Max-depth | Min-Sample split | Max leaf nodes | Average Accuracy of 10 folds |
| 1 | Decision Tree | 10 | 10 | 7 | 70 | 0.850845661644 |
| 2 | Decision Tree | 10 | 30 | 7 | 70 | 0.851035055692 |
| 3 | Decision Tree | 10 | 10 | 15 | 70 | 0.850845661644 |
| 4 | Decision Tree | 10 | 10 | 15 | 100 | 0.854454642692 |
| **5** | **Decision Tree** | **10** | **20** | **25** | **100** | **0.85473283323** |
| 6 | Decision Tree | 10 | 50 | 15 | 50 | 0.849701244019 |
| 7 | Decision Tree | 10 | 5 | 5 | 5 | 0.808501325889 |

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| Experiment # | Classifier | Cross-Validation fold | Penalty | Alpha | Average Accuracy of 10 folds |
| 1 | Perceptron | 10 | l2 | 0.0000001 | 0.759421609977 |
| 2 | Perceptron | 10 | l2 | 0.0001 | 0.750270027981 |
| 3 | Perceptron | 10 | l1 | 0.0000001 | 0.760900435246 |
| **4** | **Perceptron** | **10** | **l1** | **0.0001** | **0.761320323985** |
| 5 | Perceptron | 10 | elasticnet | 0.0000001 | 0.759421609977 |
| 6 | Perceptron | 10 | elasticnet | 0.0001 | 0.750270027981 |

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| Experiment # | Classifier | Cross-Validation fold | Hidden Layer sizes | Learning Rate | Average Accuracy of 10 folds |
| 1 | Neural Network | 10 | (20,10,5,2,1) | adaptive | 0.730787370083 |
| 2 | Neural Network | 10 | (50,30,15,2,1) | adaptive | 0.732686225272 |
| 3 | Neural Network | 10 | (30,15,2,1) | adaptive | 0.742027598796 |
| 4 | Neural Network | 10 | (30,15,1) | adaptive | 0.795966561257 |
| **5** | **Neural Network** | **10** | **(30,15)** | **adaptive** | **0.888018582718** |
| 6 | Neural Network | 10 | (30,15) | invscaling | 0.884613517772 |
| 7 | Neural Network | 10 | (30,15,1) | invscaling | 0.790048409379 |

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| Experiment # | Classifier | Cross-Validation fold | Hidden Layer sizes | Learning Rate | Average Accuracy of 10 folds |
| **1** | **Deep Learning** | **10** | **(40,30,20,10,5,2,1)** | **adaptive** | **0.769500889782** |
| 2 | Deep Learning | 10 | (50,40,30,20,10,5,2,1) | adaptive | 0.744137477904 |
| 3 | Deep Learning | 10 | (75,40,25,15,10,2,1) | adaptive | 0.70469578533 |

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| Experiment # | Classifier | Cross-Validation fold | Alpha | Average Accuracy of 10 folds |
| **1** | **Naïve Bayes** | **10** | **1.0** | **0.704695785337** |
| 2 | Naïve Bayes | 10 | 2.0 | 0.704695785337 |
| 3 | Naïve Bayes | 10 | 10.0 | 0.704695785337 |

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| Experiment # | Classifier | Cross-Validation fold | Penalty | C | Average Accuracy of 10 folds |
| 1 | Logistic Regression | 10 | l2 | 1 | 0.857303981009 |
| 2 | Logistic Regression | 10 | l2 | 2 | 0.85891685076 |
| 3 | Logistic Regression | 10 | l1 | 1 | 0.858821937968 |
| **4** | **Logistic Regression** | **10** | **l1** | **2** | **0.859769412081** |

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| Experiment # | Classifier | Cross-Validation fold | Kernel | Penalty term C | Degree | Average Accuracy of 10 folds |
| 1 | SVM | 10 | linear | 0.2 | Ignored | 0.864126624118 |
| 2 | SVM | 10 | linear | 0.2 | Ignored | 0.865930757412 |
| **3** | **SVM** | **10** | **linear** | **0.4** | **Ignored** | **0.866689409431** |
| 4 | SVM | 10 | rbf | 0.5 | Ignored | 0.861468418541 |
| 5 | SVM | 10 | rbf | 1.0 | Ignored | 0.866400860817 |
| 6 | SVM | 10 | poly | 1.0 | 3 | 0.704695305791 |
| 7 | SVM | 10 | poly | 1.0 | 2 | 0.704695305791 |

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| Experiment # | Classifier | Cross-Validation fold | No. of neighbors | Power parameter p | Leaf size | Average Accuracy of 10 folds |
| **1** | **KNN** | **10** | **5** | **2** | **30** | **0.900728253489** |
| 2 | KNN | 10 | 15 | 2 | 30 | 0.897599174958 |
| 3 | KNN | 10 | 5 | 3 | 30 | 0.892389526302 |
| 4 | KNN | 10 | 5 | 2 | 50 | 0.900728253489 |
| 5 | KNN | 10 | 15 | 2 | 50 | 0.897599174958 |
| 6 | KNN | 10 | 3 | 2 | 50 | 0.899974922885 |
| 7 | KNN | 10 | 3 | 2 | 10 | 0.899974922885 |

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| Experiment # | Classifier | Cross-Validation fold | No. of estimators | Max features | Bootstrap | Average Accuracy of 10 folds |
| 1 | Bagging | 10 | 10 | 1 | True | 0.885089748398 |
| 2 | Bagging | 10 | 10 | 1 | False | 0.83908984706 |
| 3 | Bagging | 10 | 50 | 1 | True | 0.89390951284 |
| 4 | Bagging | 10 | 50 | 0.5 | True | 0.900721736674 |
| 5 | Bagging | 10 | 50 | 0.3 | True | 0.883552964666 |
| 6 | Bagging | 10 | 100 | 0.5 | True | 0.906410105829 |
| **7** | **Bagging** | **10** | **100** | **0.5** | **False** | **0.915239059593** |

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| Experiment # | Classifier | Cross-Validation fold | No. of estimators | Learning Rate | Average Accuracy of 10 folds |
| 1 | Adaboost | 10 | 50 | 1 | 0.709513940382 |
| 2 | Adaboost | 10 | 50 | 2 | 0.388799004378 |
| 3 | Adaboost | 10 | 50 | 0.5 | 0.834047272188 |
| 4 | Adaboost | 10 | 50 | 0.2 | 0.838026128997 |
| **5** | **Adaboost** | **10** | **100** | **0.2** | **0.842014482419** |
| 6 | Adaboost | 10 | 100 | 0.1 | 0.833762898923 |

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| Experiment # | Classifier | Cross-Validation fold | No. of estimators | Max depth | Max leaf nodes | Average Accuracy of 10 folds |
| 1 | Random forest | 10 | 10 | None | None | 0.895700063968 |
| 2 | Random forest | 10 | 50 | None | None | 0.907077728844 |
| 3 | Random forest | 10 | 50 | 10 | None | 0.902239128007 |
| 4 | Random forest | 10 | 10 | None | 10 | 0.835364260042 |
| **5** | **Random forest** | **10** | **150** | **None** | **None** | **0.910869349236** |
| 6 | Random forest | 10 | 200 | None | None | 0.909636846194 |
| 7 | Random forest | 10 | 200 | 5 | 5 | 0.802270567188 |

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| Experiment # | Classifier | Cross-Validation fold | No. of estimators | Learning Rate | Max Depth | Average Accuracy of 10 folds |
| 1 | Gradient Boosting | 10 | 100 | 0.1 | 3 | 0.903568753974 |
| 2 | Gradient Boosting | 10 | 100 | 0.5 | 3 | 0.897785615048 |
| 3 | Gradient Boosting | 10 | 100 | 0.1 | 6 | 0.907550918768 |
| 4 | Gradient Boosting | 10 | 100 | 0.1 | 4 | 0.906037710615 |
| **5** | **Gradient Boosting** | **10** | **200** | **0.1** | **4** | **0.908409450281** |
| 6 | Gradient Boosting | 10 | 50 | 0.1 | 4 | 0.901007840229 |
| 7 | Gradient Boosting | 10 | 50 | 1 | 4 | 0.86562614031 |