**Test 3 Report Template - CS539 Machine Learning. Spring 2017**

**Prof. Carolina Ruiz, TA Ahmedul Kabir**

**Student’s Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**2. Preprocessing (if any)**

**3. [5 points] Stratified Random Sampling**

**4. [50 points] Classification Experiments**

1. **K-Nearest Neighbors**
2. **Decision Trees**
3. **Artificial Neural Networks**

State the architectures that you used, the number of hidden layers, and the number of hidden units on each layer.

1. **SVM**

**Summary Table for Classification Methods (expand as your need)**

|  |  |  |  |
| --- | --- | --- | --- |
| **ML method** | **Parameters** | **Evaluation metrics** | **Comments (optional)** |
| **K-Nearest Neighbors** |  |  |  |
|  |  |  |
| **Decision Trees** |  |  |  |
|  |  |  |
| **Artificial Neural Networks** |  |  |  |
|  |  |  |
| **SVM** |  |  |  |
|  |  |  |

**5. [15 points] Regression Experiments**

**Summary Table for Regression (expand as you need)**

|  |  |  |
| --- | --- | --- |
| **Parameters** | **Evaluation metrics** | **Comments (optional)** |
|  |  |  |
|  |  |  |
|  |  |  |

**6. [10 points] Principal Components Analysis**

**7. [15 points] Analysis of Results and Comparisons**

**8. [10 points] Visualizations**

Remember to carefully explain each plot and analyze it.