# **Unit 4: Support Vector Machine - Other Components Assignment**

**May 2020**

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| **Sl#** | **Question** | **Assigned To** |
| 1 | Generate a separable dataset of size 1000 and 2 features. Plot the samples on a graph and mark the support vectors for the dataset. Also, show that changing the vectors other than the support vectors has no effect on the decision boundary. | **All the Others**  Foll to correct their repo issues:   * Sarvottamkumar * Shwetha.T' * Vivek S Patil |
| 2 | Use SVM to classify the flowers in Iris dataset. Visualize the results for each of the following combinations:  **(a)** For every pair of (different) features in the dataset (there are 4). Which pair separates the data easily?  **(b)** Using One-vs-Rest and using One-vs-One. Which one fits better? Which one is easier to compute? Why?  **(c)** Using different kernels (Linear, RBF, Quadratic). | 1. Mahima\_M\_A 2. Adarsh\_Biradar 3. Fawaz\_hussain 4. Akhila\_N 5. Ujwal\_K\_C 6. Bhushan\_G\_Y 7. Meghana\_R\_Bhat 8. Sai Viswa Sumanth 9. nayan\_deep 10. Pooja\_Lokesh 11. Varshini\_S 12. Kushan\_Singh |
| 3 | Use a SVM to classify emails into spam or non-spam categories, and re-port the classification accuracy for various SVM parameters and kernel functions.  You have to use each of the following three kernel functions  (a) Linear,  (b) Quadratic,  (c) RBF.  Report training and test accuracies for the best value of generalization / regularization constant C. The best C value is the one that provides the highest accuracy on the test set.  **Dataset URL:** <https://archive.ics.uci.edu/ml/datasets/Spambase>. | 1. Harshubh\_Meherishi 2. Anagha\_P 3. Andrew\_Abishek\_A 4. Saurav\_Kumar\_Gupta 5. Tilak\_Singh 6. Zeel\_Shah 7. Rohit\_P\_N 8. Deeksha\_K\_P 9. Sachin\_RS 10. Umer\_Faruk 11. Aishwarya\_N 12. Chethan\_Ramesh |
| **Helpful Links**  Scikit-Learn Docs - http://scikit-learn.org/stable/modules/svm.html | | |

## **Complied By:**

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