# CHRIST (Deemed to be University) Data Science Department

**Bachelors of Science (Data Science)**

**Course**: BDS471L – Machine Learning

**Exercise No**: LAB Exercise – 7

**Date:** 13 – 04 – 2024

Use the following platform to demonstrate the following exercises.

Jupyter Notebook, Google Colabs, Any Python Editor

**Topic: Linear Regression**

1. For the given dataset, predict the employee attrition using Random Forest
2. Apply the required feature Engineering Techniques( Imputation).
3. Using the Random Forest Algorithm, predict the accuracy using the OOB score.
4. Apply cross-validation and check if the hyperparamter tuning is required.
5. Use the Hyper-parameter tuning method to find the best hyperparameter.
6. Filter at least the top 7 features using Random Forest.
7. Apply naïve Bayes to the same dataset and check the accuracy.
8. Check if the dataset is balanced and decide on the appropriate evaluation metric.
9. Pickle the file and predict the new data using the pickled file.

# Evaluation Scheme: (Total 10 Marks)

1. Question 2 , 2 marks
2. Question 3 , 1 mark
3. Question 4 , 1 mark
4. Question 5 , 1 mark
5. Question 6 , 1 mark
6. Question 7 , 1 mark
7. Question 8 , 2 marks
8. Question 9 , 1 marks

# General Instruction:

1. Create a word document and paste all the answers. File name should be your register number followed by lab No: Example: 2048001\_lab1
2. Upload the PDF in Google Classroom on or before the deadline mentioned.