Sri Sivasubramaniya Nadar College of Engineering, Chennai
(An autonomous Institution affiliated to Anna University)

Degree & Branch	B.E. Computer Science & Engineering	Semester	V
Subject Code & Name	UCS2612 & Machine Learning Algorithms Laboratory		
Academic year	2025-2026 (Even)	Batch:2023-2027	**27/01/2026**

Experiment 1: Working with Python packages-Numpy, Scipy, Scikit-Learn, Matplotlib

Aim: To explore different library functions in Python available for machine learning and to perform exploratory data analysis on various datasets.

Libraries used:

- Pandas
- Numpy
- Scikit-Learn
- Seaborn
- TensorFlow
- Matplotlib

Results and Discussions:

Dataset	**Type of ML Task**	**Feature Selection Technique**	**Suitable ML Algorithm**
Iris Dataset	Classification	Principal Component Analysis (PCA)	K-Nearest Neighbors (KNN)
Loan Amount Prediction	Regression	Recursive Feature Elimination (RFE)	Linear Regression
Predicting Diabetes	Classification	Recursive Feature Elimination (RFE)	Support Vector Machine (SVM)
Classification of Email Spam	Classification	Chi-Square Test	Naive Bayes
Handwritten Character Recognition (MNIST)	Classification	Principal Component Analysis (PCA)	Convolutional Neural Network (CNN)

Table 1: Identification of types of tasks performed

Learning Practices:

- Installing, importing and using machine learning libraries like **Pandas, Numpy, Scikit-Learn, Matplotlib and TensorFlow**.
- Downloading and extracting datasets from repositories like Kaggle and UCI.
- Performing EDA functions like plotting graphs, displaying statistical summary, and so on.