AL2002 – Artificial Intelligence Lab

Lab Task # 08

Note:

- Plagiarism will not be **tolerated!!**
- Use comments wherever applicable.
- Please ensure to submit both a **PDF document** and a **Python file** containing your code on the classroom platform.

Problem: 1 - Perceptron algorithm to the Iris dataset

1. Load the iris dataset using scikit-learn library.

2. Create a Pandas DataFrame with the dataset and add column names.

3. Convert the problem into a binary classification problem by only considering two classes and removing the third one. For example, we can keep only "setosa" and "versicolor" classes and remove "virginica". Visualize the data using a scatter plot.

4. Remove the target column from the train and test sets.

5. Split the data into train and test sets.

6. Apply the built-in Perceptron algorithm from scikit-learn.

7. Evaluate the accuracy, precision, recall, and F1 score of the model.

8. Apply the Perceptron algorithm from scratch using given code snippets.

9. Evaluate the accuracy, precision, recall, and F1 score of the model.