

Assignment -1

Subject: Machine Learning Deadline: 1st February 2023

Q1: Load Iris Dataset

Q2: Find the mean, median, mode for one variable (sepal length) and plot histogram for the same.

Q3: Consider the features sepal length and sepal width from the data and plot the scatter plot and find mean, and covariance matrix..

Q4: Project the bivariate data (sepal length , sepal width) in the direction $[3/5, 4/5]$. Plot histogram for projected data.. Also find the variance of projected data..

Q5: Consider the trivariate data with features sepal length, sepal width and petal length and plot the 3D scatter plot , mean. Find the covariance matrix and answer the following:

- (a) What is the variance of sepal length, sepal width and petal length.?
- (b) What is the correlation between sepal length and sepal width. ?
- (c) What is the correlation between sepal length and petal length ?.
- (d) What is the correlation between sepal width and petal length ?

Note the correlation (x,y) should lie between -1 and 1.