

Task 8

Machine Learning

Upload .py or Ipy nb extension file on GitHub public repo “100DaysofBytewise” and share the link in the submission form by 3 July 2024.

Exercise: Calculate the mean, median, and mode of the sepal lengths in the Iris dataset.

Exercise: Calculate the variance and standard deviation of the petal widths in the Iris dataset.

Exercise: Create a summary table that includes the mean, median, variance, and standard deviation for all numerical features in the dataset.

Exercise: Define a random variable for the sepal length and calculate the probability distribution of sepal lengths.

Exercise: Plot the probability distribution of sepal lengths using a histogram.

Exercise: Calculate the cumulative distribution function (CDF) for the petal lengths and plot it.

Exercise: Calculate and plot the probability density function (PDF) for sepal width.

Exercise: Determine the probability of a randomly selected iris flower having a petal length greater than a given value.

Exercise: Perform a hypothesis test to determine if there is a significant difference in the mean petal length between two species of iris flowers.

Exercise: Calculate and interpret the covariance and correlation between sepal length and sepal width.