TASK 1: IRIS FLOWER CLASSIFICATION

Documentation & Report

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1. Title

Iris Flower Classification Using Machine Learning

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2. Objective

The objective of this task is to build a machine learning model that can classify iris flowers into different species based on their physical features such as sepal length, sepal width, petal length, and petal width.

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3. Description

In this project, the Iris dataset is used to train a classification model. The dataset contains measurements of iris flowers and their corresponding species. A machine learning algorithm is applied to learn patterns from the data and predict the flower species accurately.

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4. Dataset

- Name: Iris Dataset
- Source: Scikit-learn library
- Total instances: 150
- Classes:
    - Setosa
    - Versicolor
    - Virginica

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5. Tools & Technologies Used

- Python
- Jupyter Notebook / Jupyter Lab

- NumPy
- Pandas
- Scikit-learn

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6. Methodology

1. Imported required Python libraries
2. Loaded the Iris dataset from sklearn
3. Explored the dataset and features
4. Split the dataset into training and testing sets
5. Trained a machine learning classification model
6. Predicted flower species
7. Evaluated the model using accuracy score

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7. Result

The model successfully classified the iris flowers with good accuracy. The predictions matched the actual flower species in most cases.

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8. Conclusion

This task helped in understanding the basics of machine learning classification. The Iris flower classification model works efficiently and demonstrates how machine learning can be used for pattern recognition.