Lab 1: Introduction to Machine Learning Concepts with Python

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Overview

This practical lab introduces basic machine learning concepts using Python. It covers supervised and unsupervised learning with the Iris dataset, model training and evaluation, and visualization.

Contents

- Exercise 1: Environment Setup
- Exercise 2: Exploring Supervised and Unsupervised Learning
- Exercise 3: Machine Learning Pipeline
- Exercise 4: Reflection Questions

How to Run

1. Ensure Python 3.x is installed.
2. Install required packages:

   pip install numpy pandas matplotlib scikit-learn

   python trained_model.py

Reflection Questions

1. What differences did you observe between supervised and unsupervised learning approaches?
2. How did the train-test split help in evaluating the model?
3. What factors might affect the accuracy of the model?
4. Can you think of real-world applications for each type of learning?

Notes

- The project provides a practical understanding of machine learning basics.
- Future improvements could include testing other models and tuning parameters