

Laboratory IV

Goal

Classification Systems.

To Do:

In this lab we are going to use MNIST dataset, which consists of images of handwritten digits. Each image is labeled with the number it represents.

- I. Call the necessary libraries
- II. Fetch the MNIST dataset
- III. Train a binary classifier
- IV. Use cross-validation for measuring the accuracy
- V. Evaluate the performance with Confusion Matrix
- VI. Precision and Recall
- VII. Plot ROC Curve
- VIII. Multiclass Classification
- IX. Error analysis
- X. Multilabel classification
- XI. Multioutput classification

Run the available code from machine learning repository, go through each step and try to understand the reason behind the steps.

At the end of the session, you must be able to explain the code and interpret the histograms and outputs gained from the used functions and the reason behind performed operations on the data.