

PRCP-1002-Handwritten Digits Recognition

Problem Statement

Task 1:-Prepare a complete data analysis report on the given data.

Task 2:- Classify a given image of a handwritten digit into one of the 10 classes representing integer values from 0 to 9.

Task3:- Compare between various models and find the classifier that works better.

Dataset Link:

MNIST ("Modified National Institute of Standards and Technology") is the de facto "hello world" dataset of computer vision. Since its release in 1999, this classic dataset of handwritten images has served as the basis for benchmarking classification algorithms. As new machine learning techniques emerge, MNIST remains a reliable resource for researchers and learners alike.

Your goal is to correctly identify digits from a dataset of tens of thousands of handwritten images. We encourage you to experiment with different algorithms to learn first-hand what works well and how techniques compare.

Practice Skills

- Computer vision fundamentals including simple neural networks
- Classification methods such as SVM and K-nearest neighbors

Domain:

Link : <https://d3ilbtxij3aepc.cloudfront.net/projects/CDS-Capstone-Projects/PRCP-1002-HandwrittenDigits.zip>

The input feature contains images.

Output feature contains 10 classes (digits varying from 0 to 9)

Model Comparison Report

Create a report stating the performance of multiple models on this data and suggest the best model for production.

Report on Challenges faced

Create a report which should include challenges you faced on data and what technique used with proper reason.

Note:-All above tasks have to be done on a single jupyter notebook and share the same while final submission of project.