

Implement everything from scratch and use your own code for evaluation metrics.

1. You are given the MNIST dataset consisting of two files `train.csv` and `test.csv`. The files contain the intensity values of each pixel for each image in an array format (the array size=784). Implement a logistic regression classifier to predict the labels for all the samples in `test.csv`. Compute all the evaluation metrics (Accuracy, Precision, Recall, and Accuracy). Write a function to convert an array into an image. Write a separate prediction function that takes an array of size 784 (pixel intensities) and a model as inputs, and returns an image and its predicted label.
2. Take the dataset provided in Assignment 9 (`bank-full.csv`). Take the same splits of train and test that you did in Assignment 9. Implement a Naive Bayes' classifier and compute all the evaluation metrics on the test data.