Report on MNIST Classification

Feature Extraction and reasoning:

In the given case study we have been given 28*28 cross size images in the form of a 1-D list. As we know each pixel in any image works as a feature. As far as classical machine learning is concern, we can directly feed these features to the model. But for this case study, we have extracted edge features of the images because edges are one of the most important to classify any image.

What classification techniques did you try?

As our model was having a large number of features, so to avoid the curse of dimensionality, I used Logistic Regression and XGboost for the image classification. The XGboost in general works really well. In our problem, Logistic Regression performed well as compared to XGboost.

Which of the methods (and for what hyperparameters) showed the best cross-

 The logistic Regression model performed well as compared to the XGboost model.
Optimal Set of Hyperparameters:
Optimal C =.1
Validation Accuracy =.75

What test accuracy are you expecting?

I am expecting test accuracy to be more than 75%.