Report

Abstract:

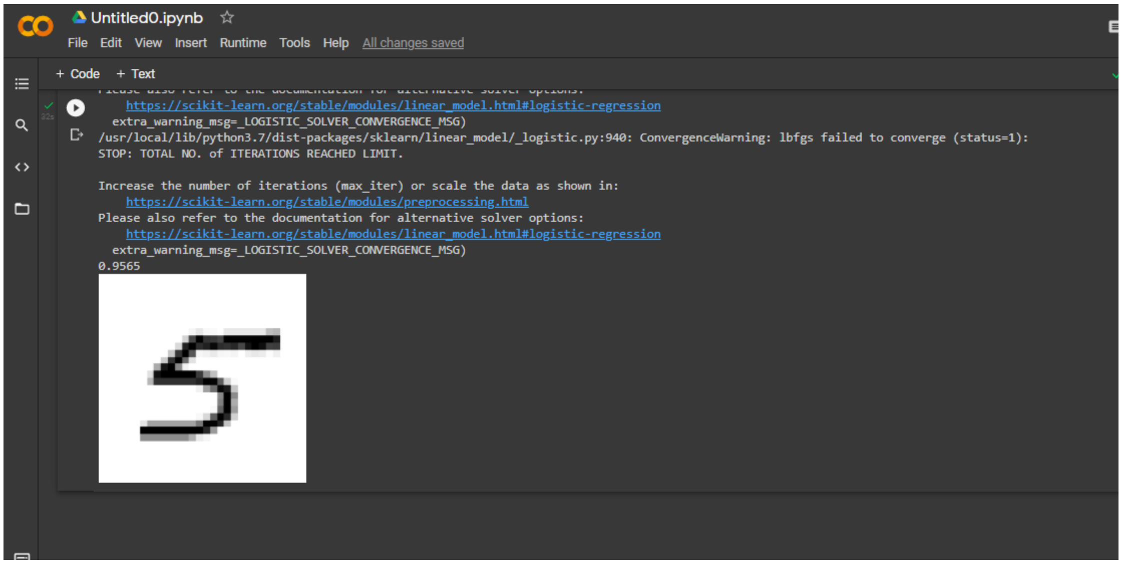
The MNIST handwritten digit classification problem is a standard dataset in computer vision and deep learning.The datasrt is sloved,it can be use the basis for learning and practicing how to develop,evaluate and also convolutional deep learning neural networks for image classification from scratch.

Introduction:

The MNIST dataset is an acronym that's stands for the modified natural institute of standards and technology dataset.It is a dataset of 60000 small square 28x28 pixel,grayscale images of handwritten single digits between 0 and 9.It is a widely used and deeply understood dataset and for the most part is sloved.Top performing models are deep learning convolutional neural networks the achieve a classification accuracy of above 99%,with an error rate between 0.4% and 0.2% on the hold out test dataset.

Results:

Now,Talk about about my result,



```
Please also refer to the documentation for alternative solver options:
    https://scikit-learn.org/stable/modules/linear_model.html#logistic-regression
  extra_warning_msg=_LOGISTIC_SOLVER_CONVERGENCE_MSG)
/usr/local/lib/python3.7/dist-packages/sklearn/linear_model/_logistic.py:940: ConvergenceWarning: lbfgs failed to converge (status=1):
STOP: TOTAL NO. of ITERATIONS REACHED LIMIT.

Increase the number of iterations (max_iter) or scale the data as shown in:
    https://scikit-learn.org/stable/modules/preprocessing.html
Please also refer to the documentation for alternative solver options:
    https://scikit-learn.org/stable/modules/linear_model.html#logistic-regression
  extra_warning_msg=_LOGISTIC_SOLVER_CONVERGENCE_MSG)
0.9565
```

I have done my work in Google colab.

I have found 95% accuracy in my project-work.

Discussion:

At first,I was import the fetch_openml from the sklearn.datasets library. Then create a variable mnist, and store in it the mnist_784 dataset from the featch_openml. Create array variables x and y. Store in them the data i have 784 (28x28) pixels of features, and these are now stored in x. Then i was try to see that picture x using matplotlib. And since the data, i stored to the 3025th element, the image was shown and that was 5 digit of number. If i talk about my accuracy, cross-validation increases the efficiency of the model. So that i would like to use cross-validate in my model, and The output was 95%.