SDAIA T5 BOOTCAMP

fashion classification project

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Introduction and main goal

The main goal of this project is to build a classification model that classify the clothes by input the images of the clothes

why don't we create our own DATASET?

WE WEB Scraped these web sites

نمشي
NAMSHI

REDBUBBLE

نجري
Nejree

How the dataset look like?

ROWS AND FEATURES

Each row is a grayscale image, each image is 28 pixels in height and 28 pixels in width, for a total of 784 pixels in total.

WHAT ARE THE VALUES?

The pixel-values are integers between 0 and 255, Each value is the darkness of the pixel

The input image before and after manipulation

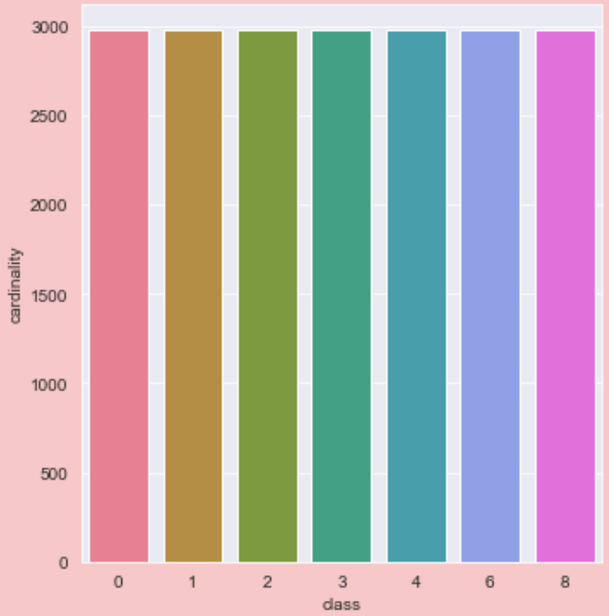
we reshaped the images
to minimize the features

Our DataSet labels

The labels are:

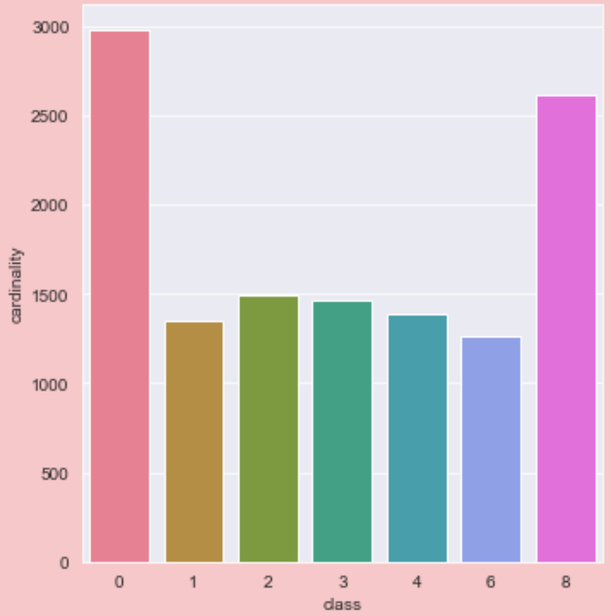
- 0 T-shirt/top
- 1 Trouser
- 2 Pullover
- 3 Dress
- 4 Coat
- 5 Sandal
- 6 Shirt
- 7 Sneaker
- 8 Bag
- 9 Ankle boot

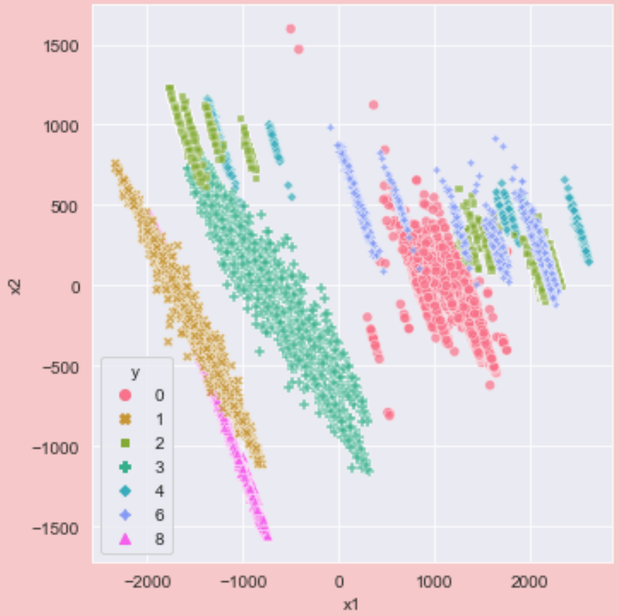
lable



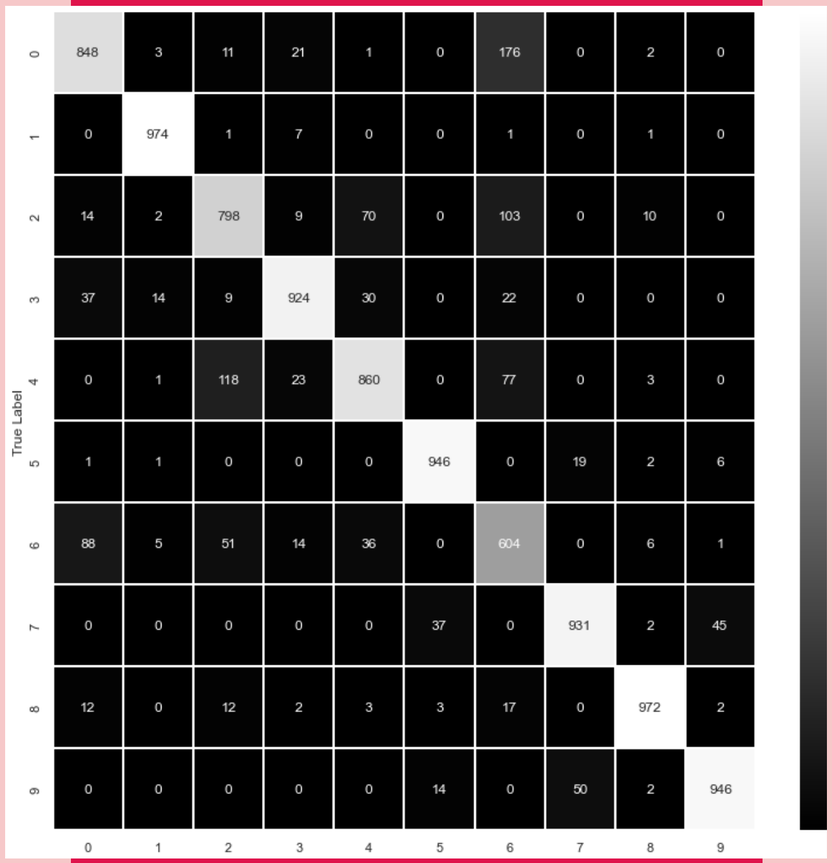
The DATASET after balancing it

lable



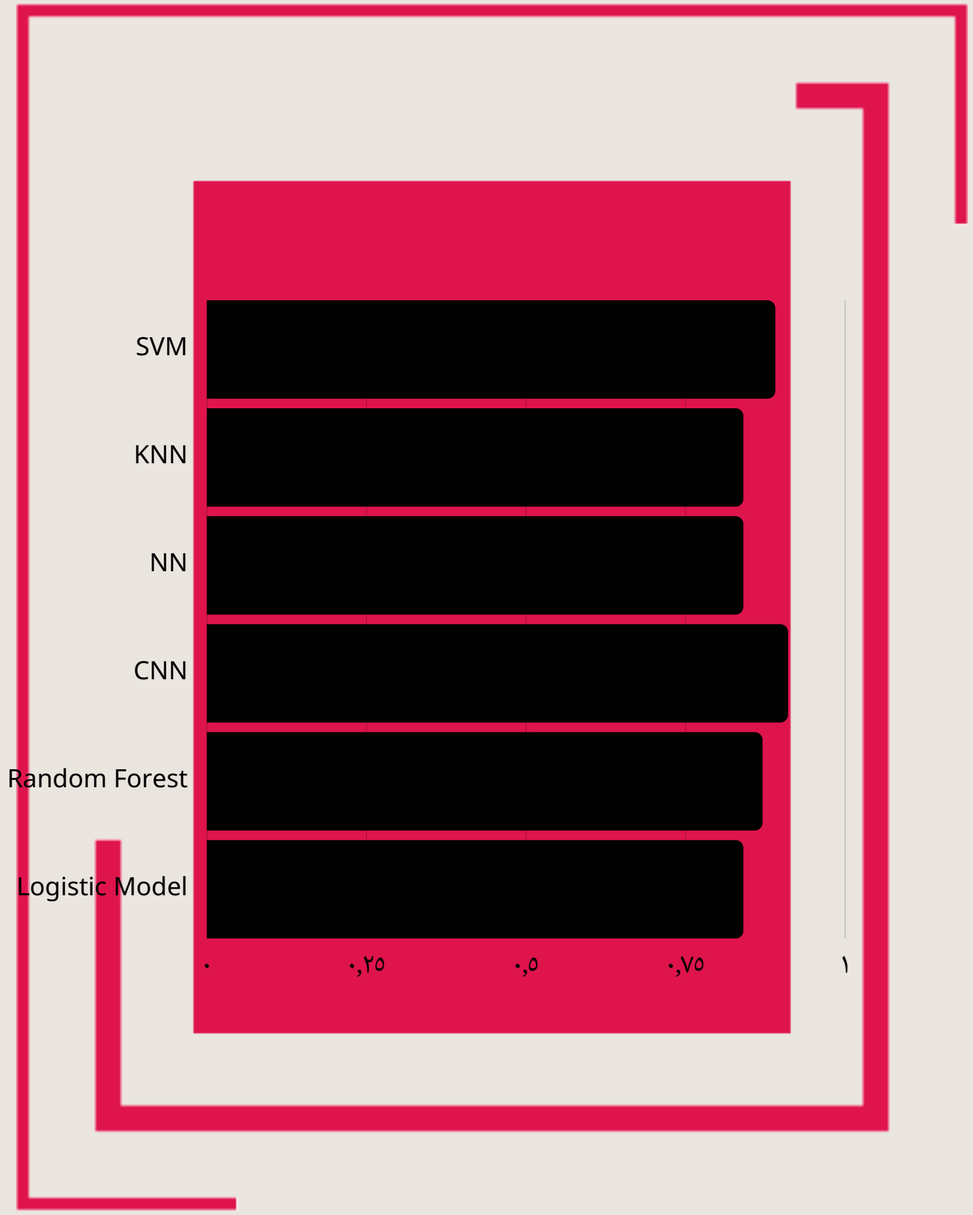


The DATASET Before balancing it



Confusion matrix

This plot shows the true values and the predited values of Random forest model



The models comparasion

THE RESULTS OF VALIDATION AND TEST

1-SVM (0.89)

2-KNN (0.84)

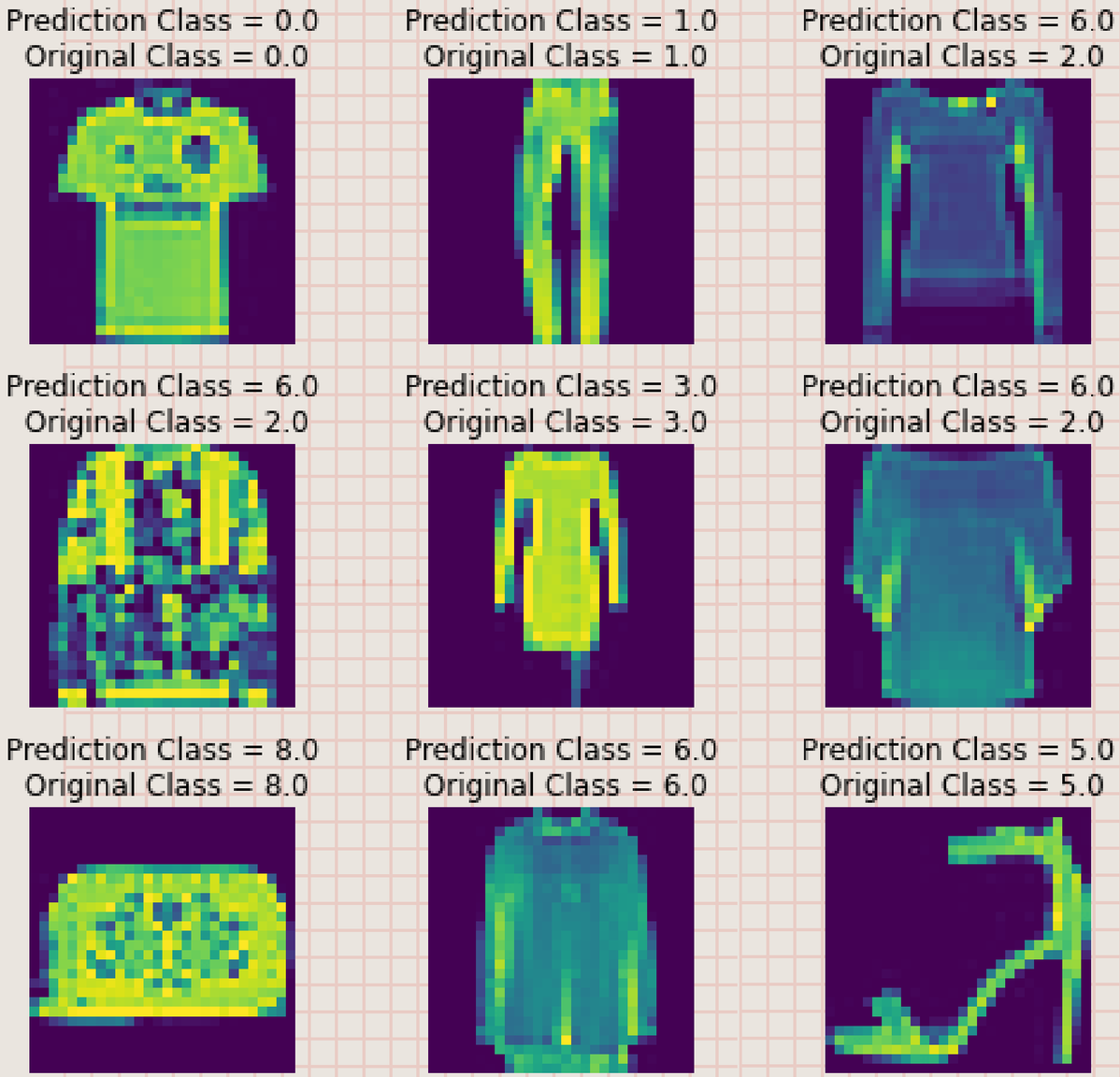
3-NN (0.84)

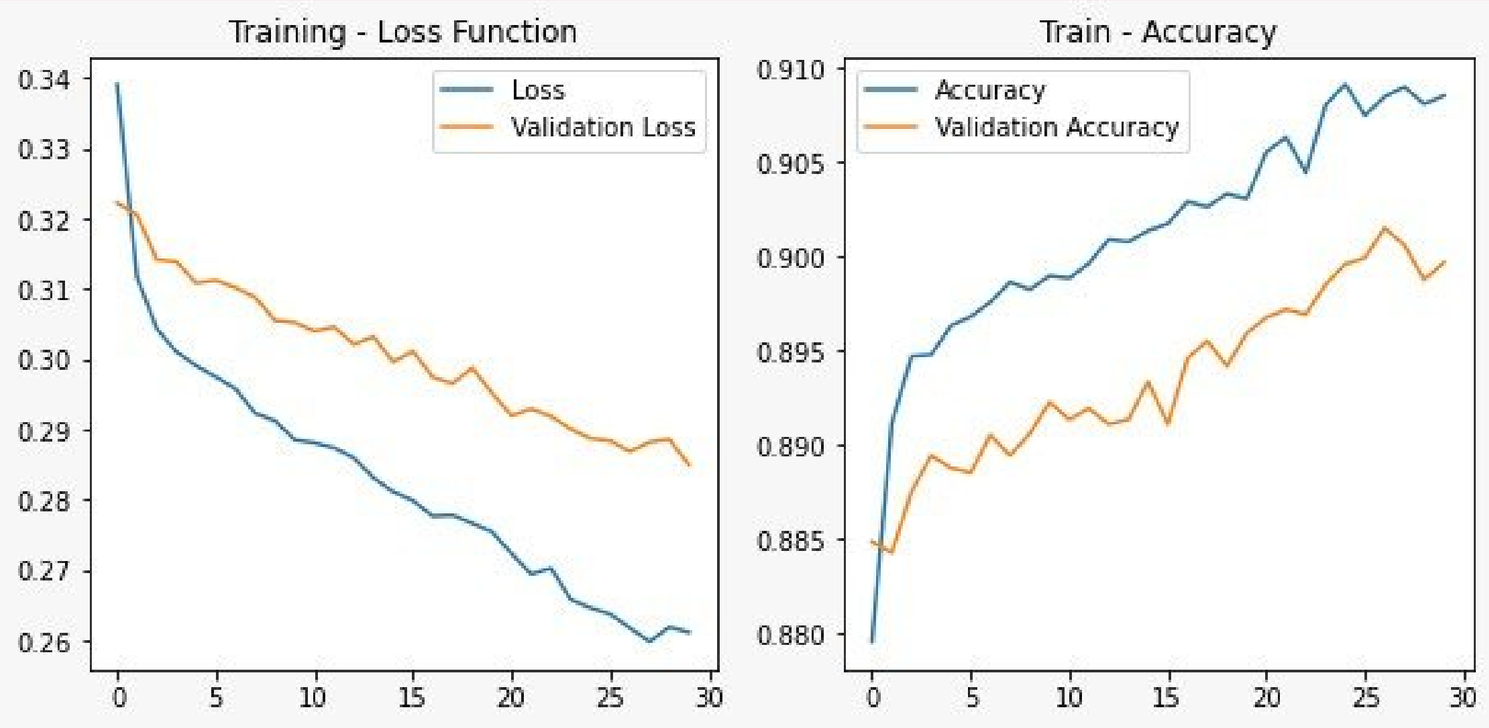
4-CNN (0.91)

5-RANDOM FOREST (0.87)

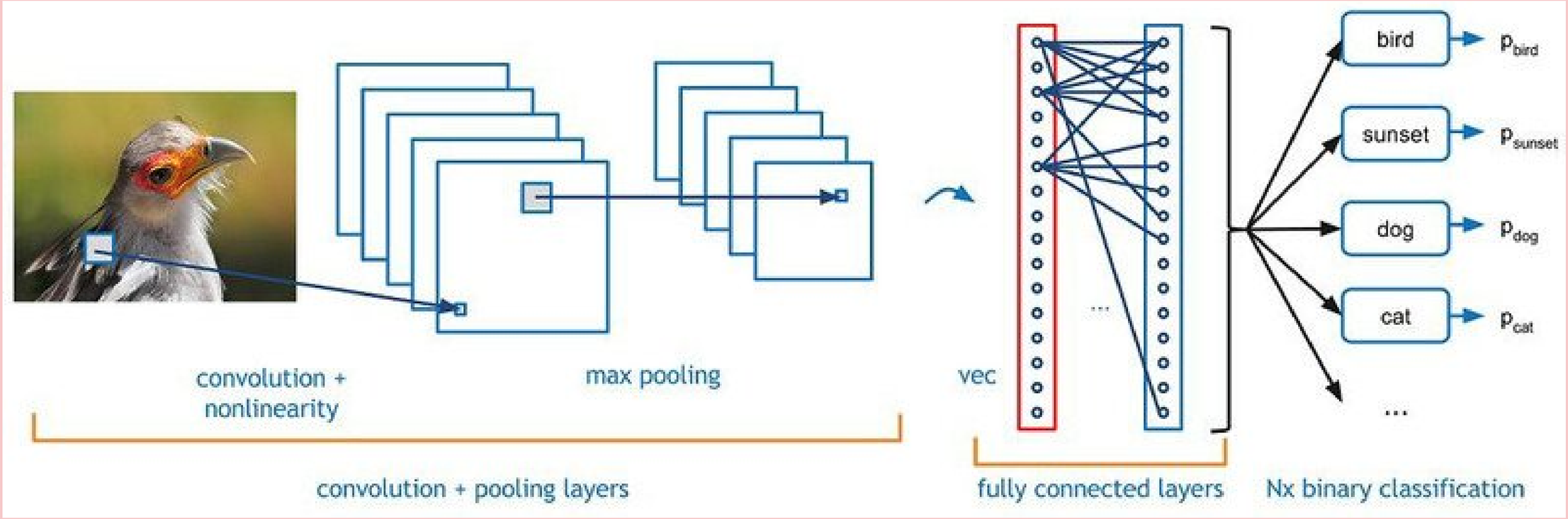
6-LOGISTIC MODEL(0.84)

The predicted labels




Training - Loss Function
Loss
Validation Loss
0.34
0.33
0.32
0.31
0.30
0.29
0.28
0.27
0.26
0
5
10
15
20
25
30
Train - Accuracy
Accuracy
Validation Accuracy
0.910
0.905
0.900
0.895
0.890
0.885
0.880
0
5
10
15
20
25
30

Accuracy



How CNN works!

conclusion and Future Works

to conclude our work..

it appears that CNN had the best result with the highest accuracy with 0.918

to improve our work

1- buiding a model takes Higher resolution images.
2-buiding a model takes colorful images.
3-try more models

Thanks for your time!

M SQUARE ARE LOOKING FORWARD TO HEAR FROM YOU ;)

" WHEN IN DOUBT,WEAR BLACK"

Quite..