Assignment 4

Author - Ramya Tekumalla
Email - ramya.vmf08@gmail.com
Date of Submission - 10/31/2020

Summary

In this assignment, we are supposed to train a classifier using CNN. To complete this task, I have used the Fruits dataset. With the help from several tutorials [1,2] and my previous wok, I was able to build my model. I used Keras library to generate the CNN architecture. First I define a sequential model and then add all the layers of the CNN. I first add the convolutional 2D layers with 16 filters. I have used the Relu activation function. The following table shows all the hyper parameters and layers I have used.

Link to Collab - Link

Architecture / Hyper parameter	Value
Conv2D [filters]	[16,32,64,128]
Activation function	Relu
Max Pooling 2D [pool size]	2
Dropout	0.3
Flatten layer	
Dense layer	150
Dense 81 , activation	Softmax
Batch size	32
epochs	30

I have never worked on image classification before this assignment. The key takeaways for me in this assignment were to convert the images to arrays. I spent most of my time on getting that part and then configuring the model. I have played with several values and adjusted several hyper parameters. I never liked working with image data because i cannot see the corresponding predicted result as I could with the text data. The matplotlib library helped me with visualizations

and helped me look at predictions and created an interest to explore more datasets. Currently i am trying to work on other datasets given as part of the assignment.

REFERENCES

1. Kowsari, K. *et al.* Text Classification Algorithms: A Survey. *Information* **10**, 150 (2019).
2. Cheng, R. LSTM Text Classification Using Pytorch. *Towards Data Science* https://towardsdatascience.com/lstm-text-classification-using-pytorch-2c6c657f8fc0 (2020)