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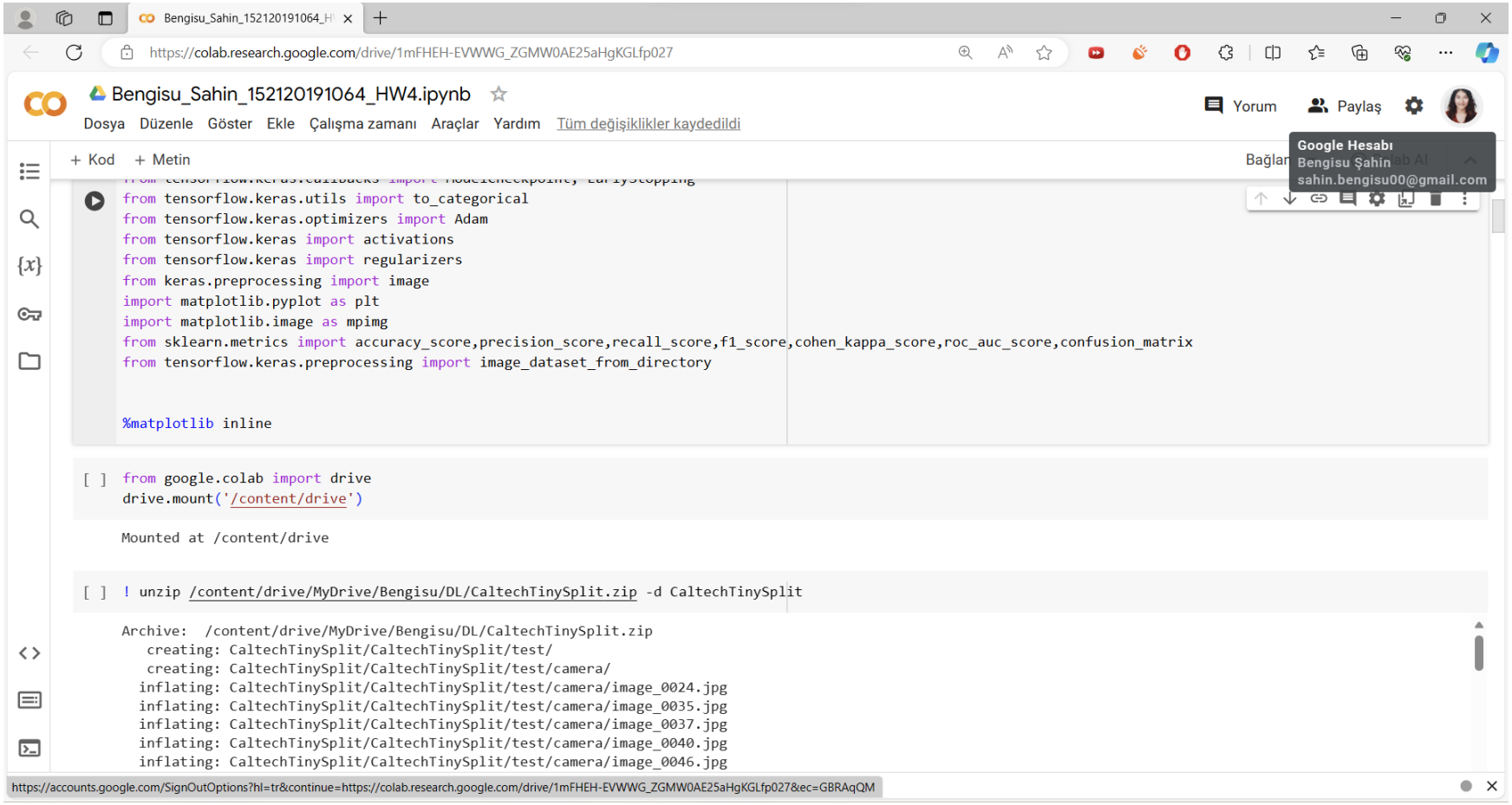
# INRODUCTION TO DEEP LEARNING HW4 Report

1. This is my google colab account screen.



2. CaltechTinySplit dataset was used. The sample keras codes shared by our teacher were used to create the model.
    a. The libraries to be used in the code were added and then a Google Drive connection was established to pull the dataset from Google Drive. After the connection was established, the link to the dataset file in Google Drive was found in the drive folder included in the content. Using this link with the unzip command, the dataset was unzipped under the folder named CaltechTinySplit and the dataset was imported.
    b. The classes (folder names) in the Caltech Tiny Split folder were found with the help of the operating system and printed on the screen.
    c. x_trian, y_train, x_val, y_val, x_test, y_test variables were created using train, validation and test classes.
    d. First, the tenserflow_addons library was added with the "!pip install tenserflow-addons" command to use when creating layers. Then the layering codes were applied. Afterwards, the optimizer step in the homework instructions was performed.
    e. The created model is saved in the file name hw4_model.hdf5. Variables such as checkpoint, early_stop and reduce_lr are also set in this code block, and then ImageDataGenerator is used in the next code block to adjust the size of the data and ensure diversity and to prevent the model from memorizing.
    f. The model is being trained. As stated in the homework instruction, the batch size is set to 16 and the epoch value is set to 60. Since we use early stop, the training will end if there is no change. (When giving the values here, I used 8 for early_stop because it worked for a very long time at larger values, but the program never finished and I had to give this value because I could not install the GPU.)
    g. To evaluate the model, we give x_val and y_val variables as parameters to the model.evaluate function. As the output, we see that the accuracy value is 0.47.
    h. To interpret the model, I printed the Accuracy Curve and Lost Curve charts.
    i. We also use some metrics to check the accuracy of the structure we created. These are accuracy, precision, recall, f score and confusion matrix. Below is the appearance of the confusion matrix.

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https://colab.research.google.com/drive/1mFHEH-EVWWG_ZGMW0AE25aHgKGLfp027

Bengisu_Sahin_152120191064_HW4.ipynb

Dosya Düzenle Göster Ekle Çalışma zamanı Araçlar Yardım Tüm değişiklikler kaydedildi

Yorum Paylaş

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+ Kod + Metin

Bağlan

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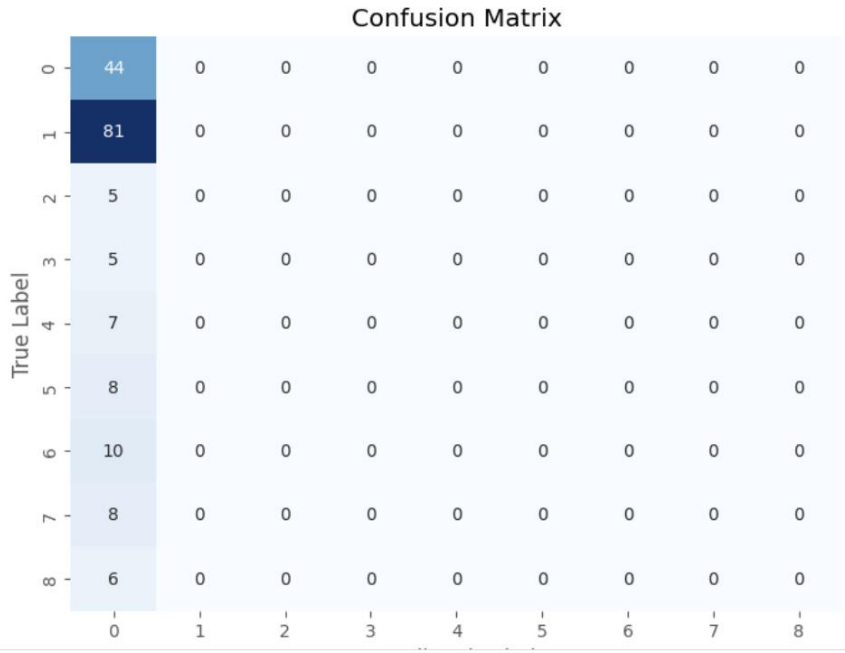


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10°C Bulutlu

Ara

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