

Data Collection

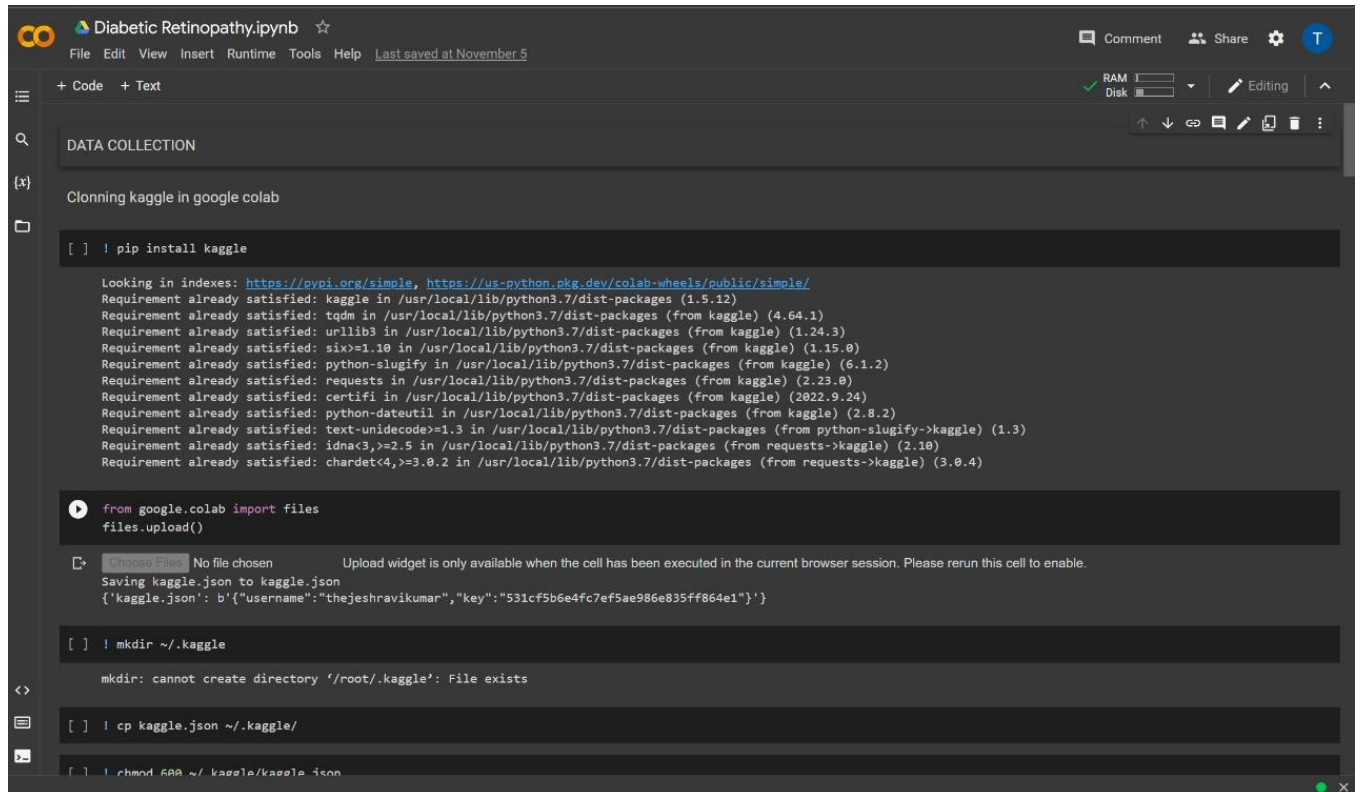
Dataset Download:

The dataset is downloaded from kaggle link :

<https://www.kaggle.com/datasets/arbethi/diabetic-retinopathy-level-detection>

select = preprocessed + dataset

Kaggle package in Python is installed to collect the dataset from the source.



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DATA COLLECTION

Clonning kaggle in google colab

[ ] ! pip install kaggle

Looking in indexes: https://pypi.org/simple, https://us-python.pkg.dev/colab-wheels/public/simple/
Requirement already satisfied: kaggle in /usr/local/lib/python3.7/dist-packages (1.5.12)
Requirement already satisfied: tqdm in /usr/local/lib/python3.7/dist-packages (from kaggle) (4.64.1)
Requirement already satisfied: urllib3 in /usr/local/lib/python3.7/dist-packages (from kaggle) (1.24.3)
Requirement already satisfied: six>=1.10 in /usr/local/lib/python3.7/dist-packages (from kaggle) (1.15.0)
Requirement already satisfied: python-slugify in /usr/local/lib/python3.7/dist-packages (from kaggle) (6.1.2)
Requirement already satisfied: requests in /usr/local/lib/python3.7/dist-packages (from kaggle) (2.23.0)
Requirement already satisfied: certifi in /usr/local/lib/python3.7/dist-packages (from kaggle) (2022.9.24)
Requirement already satisfied: python-dateutil in /usr/local/lib/python3.7/dist-packages (from kaggle) (2.8.2)
Requirement already satisfied: text-unidecode>=1.3 in /usr/local/lib/python3.7/dist-packages (from python-slugify->kaggle) (1.3)
Requirement already satisfied: idna<3,>=2.5 in /usr/local/lib/python3.7/dist-packages (from requests->kaggle) (2.10)
Requirement already satisfied: chardet<4,>=3.0.2 in /usr/local/lib/python3.7/dist-packages (from requests->kaggle) (3.0.4)

from google.colab import files
files.upload()

Choose Files No file chosen Upload widget is only available when the cell has been executed in the current browser session. Please rerun this cell to enable.
Saving kaggle.json to kaggle.json
{'kaggle.json': b'{"username": "thejeshravikumar", "key": "531cf5b6e4fc7ef5ae986e835ff864e1"}'}

[ ] ! mkdir ~/.kaggle

mkdir: cannot create directory '/root/.kaggle': File exists

[ ] ! cp kaggle.json ~/.kaggle/

[ ] ! chmod 600 ~/.kaggle/kaggle.json
```

Download the dataset Kaggle:

```
In [5]: from google.colab import files
files.upload()
```

Upload widget is only available when the cell has been executed in the current browser session. Please rerun this cell to enable.

Saving kaggle.json to kaggle.json

```
Out[5]: {'kaggle.json': b'{"username": "thejeshravikumar", "key": "531cf5b6e4fc7ef5ae986e835ff864e1"}'}
```

```
In [6]: ! mkdir ~/.kaggle
```

mkdir: cannot create directory '/root/.kaggle': File exists

```
In [7]: ! cp kaggle.json ~/.kaggle/
```

```
In [8]: ! chmod 600 ~/.kaggle/kaggle.json
```

Create Training and Testing path:

Creating Training And Testing Path

```
[13]: imageSize = [299,299]
trainPath = r"/content/preprocessed dataset/preprocessed dataset/training"
testPath = r"/content/preprocessed dataset/preprocessed dataset/testing"
```

To build a DL model we have to split training and testing data into two separate folders. But In the project dataset folder training and testing folders are presented. So, in this case we just have to assign a variable and pass the folder path to it.

Four different transfer learning models are used in our project and the best model (Xception) is selected. The image input size of xception model is 299, 299.