TJEDC - Tom and Jerry Emotion Detection Challenge

Steps performed:

- Image Preprocessing:
  - Converted images from Color to Grayscale (as color does not add any information about emotion)
  - Resize the images to (180*320)
  - Standard scaling of each image (divided the matrix by 255)

- Model Selection:
- Since CNNs are most popularly used for image related tasks, I built a simple CNN model using keras
- The model had the following specifications:

2 Convolution layers:

I. Layer 1:
   A. Filters: 32
   B. Kernel size = 3,3
   C. Activation = ReLU
II. Layer 2:
   A. Filters: 64
   B. Kernel size = 3,3
   C. Activation = ReLU

2 Dense Layers:

I. Layer 3:
   A. Nodes = 128
   B. Activation = ReLU
II. Layer 4 (Output layer):
   A. Nodes = 5
   B. Activation = Softmax

- Since it was a multiclass classification problem (total 5 output labels), I used categorical cross entropy for loss computation.
- Since , there are good chance of overfitting in CNN , I used dropout layer to avoid overfitting.

Steps to run code:

we need to update path , dir_path, test_path , test_dir_path variables in code:

1. The path to train.csv in ‘path’ variable.
2. The path to test.csv in ‘test_path’ variable.
3. The path to folder containing train images in ‘dir_path’ variable.
4. The path to folder containing test images in ‘test_dir_path’ variable.