

# **Exercises 28**

**NN Improvement  
1200**

# 1. Classify the Categories of **CIFAR10** dataset, Using CNN

## Points:

- Use %10 of the train set as a validation set.
  - Minimum of epochs: 30
  - Select the best epoch and explain the reason for your selection. (Has Overfitting occurred? why?)
  - Use generated images instead of train-set images for training.
  - for generating images, rotate, flip (horizontal, vertical), shift (horizontal, vertical), zoom on the images, then change the brightness.
  - Plot loss and accuracy trends (train and validation) during epochs.
  - Hyperparameters: Desired!
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- **Test Accuracy must be more than 70%**

Marks: Loading and Preprocessing (100), ImageDataGeneration(300), Compile(100), Fit(100), Evaluate(100), best epoch selection and explain the reason (200), Test Accuracy more than 90% (200), plot loss and acc trend (100)