25th October 2018

**Attendance: 10%, Continuous evaluation: 70%, Viva-20%**

**Assignment No. 5**

* Download and extract the flower image dataset from <https://www.kaggle.com/alxmamaev/flowers-recognition>.
* The dataset contains five classes of flower images, namely chamomile, tulip, rose, sunflower, dandelion. Resize all images to 120×120 pixels.
* Randomly shuffle all images to create training, test and development set with ratio of 90:10:10, respectively.
* Train using Convolutional neural network with two layers, max pooling and a fully connected layer at top to classify the flower images. Use tensorflow or keras to implement the same.
* Convert all colour images to grey images and train a three layer Convolutional neural network with max pooling and fully connected layer at top to classify the flower images. Use batch normalization in between the layers.
* Compare the accuracy for development and test set for both the trained network. Display the prediction outcome of 10 images from test set in jupyter notebook.
* Plot the graph for loss and accuracy Vs epoch for training set. Also, plot the graph for accuracy Vs epoch for development set in the same graph.

Submit a report with result.