

Attendance: 10%, Continuous evaluation: 70%, Viva-20%**Assignment No. 5**

- i. Download the and preprocess the sentiment analysis dataset from <https://www.kaggle.com/snap/amazon-fine-food-reviews>.
- ii. Download the Glove word vectors from <http://nlp.stanford.edu/data/glove.6B.zip> and extract the 100 dimensional file (glove.6B.100d.txt) from the zipped folder.
- iii. Preprocess the review dataset by considering the column “review score” >3 as positive reviews and other negative review. For training one local machine consider 5000 positive and negative reviews each for training dataset.
Consider 2000 reviews for test dataset.
- iv. Truncate 200 most common and least common words from reviews on training and test dataset.
- v. Represent each word to corresponding embedding from Glove 100 dimensional vector. Use non-trainable embedding layer in keras or tensorflow to represent the same.
Note: Unknown word which are not present in glove.6B.100d.txt, replace with random 100 dimensional vector ranging between (-0.5 to +0.5).
- vi. Train a Convolutional neural network and a fully connected layer at the top, to classify the reviews. Now run the network by changing the following hyper-parameters:

Hidden Layers	Convolution Window	Convolution size	Regularization
1	(5*5, 4*4, 3*3)	[16,32, 64]	Dropout of 0.8 after each layer
2	(5*5, 4*4, 3*3)	[16,32, 64]	Batch normalization after each layer (except the first)

- vii. Write a review by your own and test your model. Save the model for later use.

Submit a report with results.