

**January-May 2019 Semester**

**CS7015: Deep Learning**  
**Teacher: C. Chandra Sekhar**

**Programming Assignment III**

Date: **April 12, 2019**

Deadline for submission of PDF file of report: **Wednesday, May 08, 2019**

**Datasets:**

1. Image classification data set
2. Image annotation data set
3. Image captioning data set
4. Video captioning data

**Deep CNN Models for Extraction of features from an image or a video frame:**

1. VGGNet
2. GoogLe Net

**Task 1:** Image classification using a MLFFNN with Deep CNN features for an image as the input to the MLFFNN

**Task 2:** Image annotation using a MLFFNN with Deep CNN features for an image as the input to the MLFFNN

**Task 3:** Image captioning using a Deep CNN as encoder and a single hidden layer LSTM based RNN as decoder

**Task 4:** Video captioning using NetVLAD as encoder and a single hidden layer LSTM based RNN as decoder

**Task 5:** Video captioning using ActionVLAD as encoder and a single hidden layer LSTM based RNN as decoder.

**Report should include details of experimental studies, results, observations and analysis of results.**