January-May 2020 Semester

CS6910: Fundamentals of Deep Learning

Programming Assignment IV

Date: **May 08, 2020**
Deadline for submission of PDF file of report: **Monday, June 15, 2020**

Datasets:
1. Image captioning data set
2. Machine translation data set

Task 1: Image captioning using a CNN with NetVLAD as encoder and a single hidden layer RNN based decoder

Task 2: Same as Task 1 using the single hidden layer LSTM network based decoder

Task 3: Machine translation using the encoder-decoder framework. The encoder and decoder are to be built using an LSTM network with a single hidden layer and without attention mechanism

Task 4: Same as Task 3 with attention mechanism

Task 5: Machine translation using transformer model. The encoder and decoder are to be built using two layers and with multi-head attention using 4 heads.

GloVe representation is to be used as the word representation.

Performance of the image captioning system and the machine translation system is to be given as BLEU@k scores with k = 1, 2, 3 and 4

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