Natural Language Processing - Supervision 3

A.H. Zaidi

9   Distributional Semantics and Deep Learning

(a) Describe and explain the advantages and potential disadvantages of the following:

(i) Restricted Boltzmann Machine (RBM)

(ii) Recurrent Neural Network (RNN)

(iii) Long-Short Term Memory (LSTM)

(b) What is word2vec and how can it be used for 1) identifying similarity between texts and 2) multi-modal task such as Visual Question Answering (VQA)

10   Discourse Processing

(a) Describe the following concepts and explain one approach of tackling these tasks:

(i) Anaphora Resolution

(ii) Summarisation

11   Language Generation and Regeneration

(a) Describe the difference between the ideas of **generation** and **regeneration**

(b) What are some of the tasks in natural language generation?

(c) **BONUS:** How might you use an LSTM to generate a response for a question?