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?