**Problem Description:**

Question answering (QA) is concerned with building systems that automatically answer questions posed by humans in a natural language. Question answering has received more focus as large search engines have basically mastered general information retrieval and are starting to cover more edge cases.

Standard information retrieval statistical models, like Latent Dirichlet allocation (LDA) or Latent Semantic Indexing (LSI) do not efficiently capture syntactic nuances. Deep learning models are better suited to model QA system given their ability to capture higher-order syntax and efficiency.

**Related Work:**

Two papers, “Applying deep learning to answer selection: a study and an open task” (Feng et. al. 2015) and “LSTM-based deep learning models for non-factoid answer selection” (Tan et. al. 2016), are recent examples which have applied deep learning to question-answering tasks with good results.

**Proposed Experiment:**

We are going to implement QA in tensorflow.

**Data Set: SQUAD(Stanford question and answer dataset)/ set of wiki articles.**

**External Libraries and Tools: NLTK, TensorFlow, Stanford GloVe**

**Software Development: python, keras, numpy, nltk, json, re,Matplotlib**

**Experimental Design:**

1. **Parse json and tokenise the text.**
2. **Create word embeddings using GloVe (linguistic or semantic similarity of the corresponding words)**
3. **Encode the input to fit neural network model**
4. **Construct model using keras library and train it.**
5. **Test the model.**

**bill grabbed the apple there . bill got the football there . jeff journeyed to the bathroom . bill handed the apple to jeff . jeff handed the apple to bill . bill handed the apple to jeff . jeff handed the apple to bill . bill handed the apple to jeff .**

**QUESTION: what did bill give to jeff ?**

**RESPONSE: apple Correct**

**EXPECTED: apple**

**bill moved to the bathroom . mary went to the garden . mary picked up the apple there . bill moved to the kitchen . mary left the apple there . jeff got the football there . jeff went back to the kitchen . jeff gave the football to fred .**

**QUESTION: what did bill give to fred ?**

**RESPONSE: apple incorrect**

**EXPECTED: apple**

**Division of Labor:**

**Week1:**

**Vhaijayanti:**

**Neethika:**

**Divya:**

**Week2:**

**Vhaijayanti:**

**Neethika:**

**Divya:**

**Week3:**

**Vhaijayanti:**

**Neethika:**

**Divya:**

**Week4:**

**Vhaijayanti:**

**Neethika:**

**Divya:**

**Week5:**

**Vhaijayanti:**

**Neethika:**

**Divya:**

References:

<https://codekansas.github.io/blog/2016/language.html>

<https://en.wikipedia.org/wiki/Question_answering>

<https://web.stanford.edu/~jurafsky/slp3/28.pdf>

<https://www.oreilly.com/ideas/question-answering-with-tensorflow>

<https://nlp.stanford.edu/projects/glove/>