COMP9444 Project Report

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1. **Introduction**

The goal of this assignment is to add code to implementation.py to train and submit a neural network capable of classifying the sentiment of the provided reviews with a high level of accuracy. What we should specifically do is to implement these two functions: preprocess() and define\_graph (): ….. ,,,，

1. **Methodology with justifications**

First, in the preprocessing of the text, we removed the invalid characters, then the characters are in lowercase, and finally the stop words are removed.

Second, in our define\_graph function, we did the following:

1. We got the input\_data, labels and dropout\_keep\_prob by using tf.placeholder.
2. Feed our data into an Lstm network by using tf.nn.rnn\_cell.BasicLSTMCell function. This function takes in an integer for the number of LSTM units that we want.
3. We feeded both the LSTM cell and the 3-D tensor full of input data into a function called tf.nn.dynamic\_rnn. This function is in charge of unrolling the whole network and creating a pathway for the data to flow through the RNN graph.
4. Finally got the output we want.
5. After the network layer was set up, we began to adjust the parameters. Because the parameters are also important factors affecting the final accuracy, our parameters are as follows. BATCH\_SIZE=128,MAX\_WORDS\_IN\_REVIEW = 100,EMBEDDING\_SIZE = 50,numClasses = 2,lstmUnits = 100,learning\_rate = 0.0001.
6. **Results and Conclusions**