BUS 243 Name:

Quiz 5.

Problem. Two possible ways to train word2vec embeddings are skip-gram and continuous bag-of-words (CBOW) approach. Supply your intuition on how to use each approach to train the word2vec model.

Consider i) what to predict and ii) how to handle the context in each approach.

[main contents 1: definition] In CBOW, the primary task is to build a language model that correctly predicts the center word given the context words in which the center word appears. SkipGram is very similar to CBOW, with some minor changes. In SkipGram, the task is to predict the context words from the center word.

[main contents 2: how to adjust the contexts] In both CBOW and skip-gram, the context is defined by a fixed-size window of words around the center word. The window size can be adjusted to increase or decrease the amount of context used to train the model. Increasing the context size can capture more information about the relationships between words but may also increase the computational cost of training the model.

[optional] The skip-gram approach is effective for capturing the relationships between words, while the CBOW approach is better suited for capturing the overall meaning of a word in a given context. Depending on the specific task, one approach may be more appropriate than the other. However, the overall performance would not be different too much.