Project 8: Neural Networks

Paul Beggs

Kaggle Link

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1 Embedding Analysis

1. What are some examples of word combinations where the top predicted word plausibly makes sense?

   Answer. For most of the word combinations, the top word was "the." This is understandable, seeing that "the" is the most common word in the Oxford English Corpus. A notable case that doesn't have "the" as the most common word is using "I" with the combination `['avenge', 'him', 'blindly']`. This makes sense as you can make sentences like "I will avenge him," or "I blindly followed him."

2. What are some examples where the top predicted word doesn't make sense?

   Answer. Every combination has at least one of the following for the top predicted word: "of," "the," "I," "and," and/or "a." None have an exceptional outlier, as you may expect. So, if I had to give an answer to this question, I suppose it would be the choice of "I" with the combination `['you', 'ever', 'hear']`. This is the most abnormal choice, but that is not saying much.

3. In what ways can you see the concept of an embedding providing a model for what a word means?

   Answer. I can see that we can model a word's meaning through multidimensional arrays where how close a word is to similar words tell us how semantically similar they are. However, we see that in practice, the embedding is dominated by words like the ones I pointed out in the previous answers. So, perhaps in this case, the embedding is capturing the frequency of words, rather than what the words mean.