

## NATURAL LANGUAGE PROCESSING

- ➤ Before making predictions, book reviews must be converted into a corpus.
- ➤ Normalize corpus with lowercase letters; eliminate stop words and special characters.
- ➤ Use CountVectorizer and TfidfVectorizer to convert individual reviews into a sparse matrix.
- ➤ Iterate over n-grams. One word, is the default. Also try 2 word combinations and 3 word combinations.
- ➤ Best results consistently came from CountVectorizer(ngram\_range=(1,2)) using, 1 and 2 word combinations.

## **PREDICTIONS**

- ➤ Question: Is a particular review helpful?
- ➤ Y is the helpful rating.
- Instead of predicting an exact rating, the data is split into helpful and unhelpful scores.
- ➤ Reviews with a helpful rating of over 85% are helpful.
- ➤ Reviews with a helpful rating of under 50% are not helpful.
- ➤ Leaving out the middle is justified because these reviews could go either way. User results may not be as accurate due to bias.

