

Homework 3 - Feature Engineering  
2015 Spring, Machine Learning  
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**Explanation.** \_\_\_\_\_

- 1) I removed any accent symbols using the **strip\_accents** option of the CountVectorizer.
- 2) I removed numbers and punctuations using the **preprocessor** option of the CountVectorizer.
- 3) Using the **tokenizer** option and WordNetLemmatizer provided by the nltk package, I did a lemmatization.
- 4) I removed english stopwords using the **stop\_words** option of the CountVectorizer.
- 5) I created an additional feature that consists of two words in a row in the document using the **ngram\_range** option of the CountVectorizer.