Applied Text Mining in Python

Identifying Features from Text

Why is Textual Data Unique?

- **Textual data presents a unique set of challenges**

- **All the information you need is in the text**

- **But features can be pulled out from text at different granularities!**

Types of Textual Features (1)

- **Words**
  - **By far the most common class of features**
  - **Handling commonly-occurring words: Stop words**
  - **Normalization: Make lower case vs. leave as-is**
  - **Stemming / Lemmatization**

Types of Textual Features (2)

- **Characteristics of words : Capitalization**
- **Parts of speech of words in a sentence**
- **Grammatical structure, sentence parsing**
- **Grouping words of similar meaning, semantics**
  - **{buy, purchase}**
  - **{Mr., Ms., Dr., Prof.}; Numbers / Digits; Dates**

Types of Textual Features (3)

- **Depending on classification tasks, features may come from inside words and word sequences**
  - **bigrams, trigrams, n-grams: "White House"**
  - **character sub-sequences in words: "ing", "ion", ...**

How would you do it?

- **Recall lectures from previous week**