

LING 120:  
Language and Computers  
Semester: Fall '17

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# Today's class

- ▶ Discussion about question from last week
- ▶ Language, Technology, and impact on society: Review of topics through questions
- ▶ Group exercise + Discussion (Attendance)
- ▶ Plan for the week:
  - ▶ Wednesday: Peer Review of Finals-1; Complete course evaluations (only 25% completed so far!!)
  - ▶ Friday: Continuation of revision for remaining topics, pointers for further study

## Question from last week

- ▶ Question: What concepts we discussed are useful to solve the "spooky author classification" problem on Kaggle.com?
- ▶ Some of your answers:
  - ▶ Text classification (It is a classification problem -identifying one of the three categories i.e., author names)
  - ▶ bag-of-words, n-grams (it turns out: character n-grams are very useful, even more than bag-of words for this task!)
  - ▶ Frequency of Nouns, Pronouns etc.
  - ▶ Regular expressions can be used to look for patterns of words that show up in close proximity

## In the coming few slides:

- ▶ I will do a quick 1-2 sentence summary of a topic, and ask questions about the impact of that topic on our society.
- ▶ Impact can be in terms of new gadgets in our hands, new jobs, new ways to learn, making life comfortable/better - anything.
- ▶ I will ask one person per topic - others can also join and contribute answers.
- ▶ Note: Make notes. It will be a useful exercise to submit your final exam writeup.

# Topic 1: Encoding of Text and Speech

- ▶ What did we discuss: representing language on computer, different scripts, input methods, understanding speech signals, speech recognition, braille, sign language etc.
- ▶ Now, how are these relevant in the society?
- ▶ What kind of applications came up because of these technologies, which could not have happened before?
- ▶ How do these applications impact our society?

## Topic 2: Writers Aids

- ▶ What did we discuss: spelling and grammar checkers - how they work
- ▶ Brand new tool, something that is actually relevant to you:  
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- ▶ What did we discuss: spelling and grammar checkers - how they work
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# Topic 3: Language Tutoring Systems

- ▶ What did we discuss: how to develop and evaluate language learning systems, how do systems like DuoLingo work etc.
- ▶ How are these relevant in the current day society?
- ▶ What kind of applications came up because of these technologies, which could not have happened before?
- ▶ How do these applications impact our society?



## Topic 4: Searching through Text

- ▶ What did we discuss: working of a search engine, searching for patterns in large collections of text, regular expressions
- ▶ How are these relevant in the current day society?
- ▶ What kind of applications came up because of these technologies, which could not have happened before?
- ▶ How do these applications impact our society?

## Topic 5: Text Classification

- ▶ What did we discuss: what is classification - examples of how it works using spam classification, and other examples
- ▶ How are these relevant in the current day society?
- ▶ What kind of applications came up because of these technologies, which could not have happened before?
- ▶ How do these applications impact our society?

## Rest of the class

- ▶ I will do this for the remaining topics (Speech synthesis, Dialog Systems, Machine Translation, and Other assorted topics) on Friday.
- ▶ For the rest of the class, I want you to do a small exercise (in groups of 2–3 people).
- ▶ 10 minutes to figure out answers. Remaining time to discuss your answers with the class.