

# “Nessvectors”

Portland Python User Group



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# Language Model

Sequence Learning => Predict the next word

Predictive Text

Middle Button Game

Autocomplete

Time Series Model

# Language Model = Mad Libs

- 1) Excuse me sir, you   [verb]   your wallet.
- 2) I'm   [adjective]   for being too late.
- 3) Could we have   [noun]   at 6, and then go to a movie?
- 4) My mom                    some cookies if you want some.
- 5) I don't understand. Could you please            that?
- 6) I was born in Damascus. Where are        from?

**“a”, “b”, “c”, ...**

**“!”, “?”, ...**

**“Cohen”, “Harari”**

**“Leonard\_Cohen”, “Yuval Harari”**

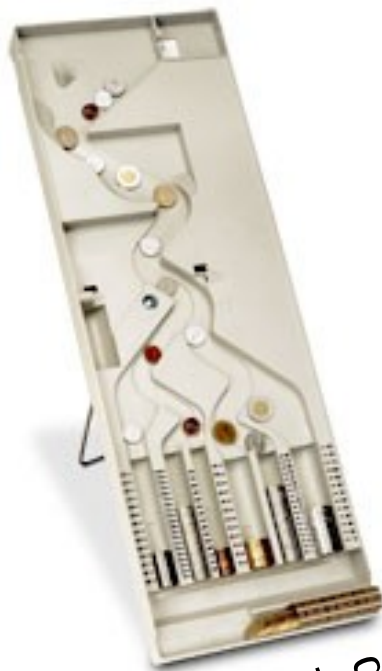
**“: )”, “:- )”, “;- )”, “:-/”**

**“POTUS”, “LOL”, “WAT”, ...**

# NLP Pipeline

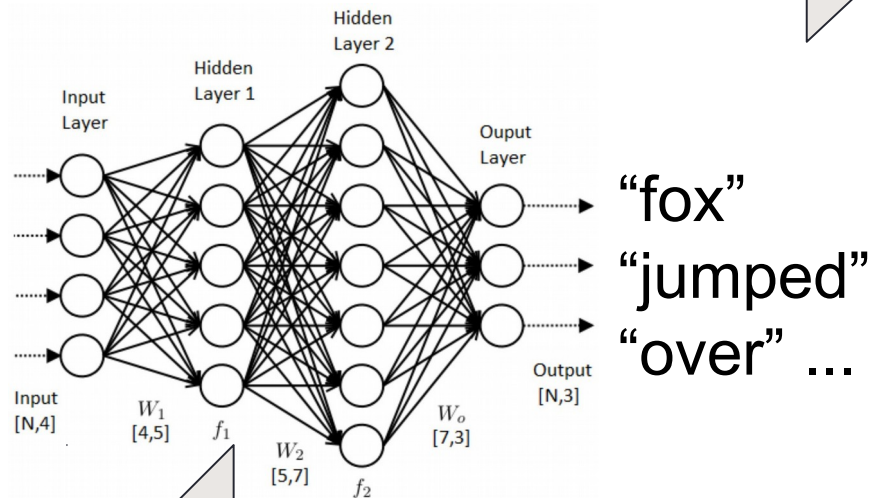
“The quick brown ...”

**Prediction** (forward propagation)



The  
quick  
brown

“The”  
“quick”  
“brown”  
“ ... ”  
“ ... ”



**Learning/Training**  
(back propagation)

# What's NLP Good For?

Classification & Filtering

Translation (**style** too!)

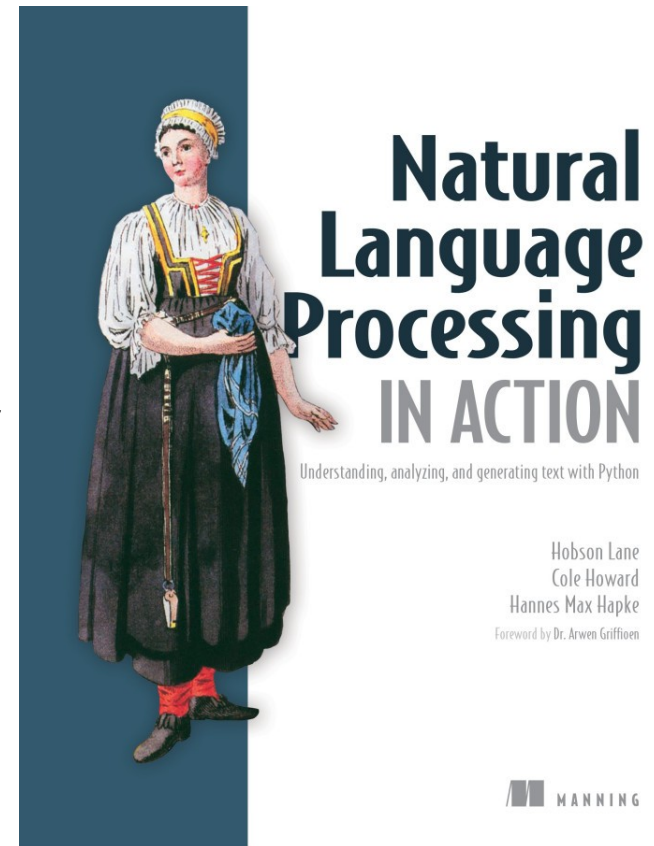
Question Answering

Search & Extractive summary

Weather, Finance & Law

Novels & Movie scripts

**IA! (Assistants)**



<http://bit.ly/nlpia-py>