



# Reverse Mad Libs

Natural Language Processing

Scott Bing

## A word cloud with a light gray background. The words are in various colors (gray, red, orange, yellow) and sizes. The most prominent words are 'language', 'interaction', 'text', 'linguistics', 'automatic', 'learning', 'processing', 'input', 'output', 'analysis', 'simulation', 'keywords', 'telecommunications', 'operating', 'typography', 'information', 'human', 'systems', 'artificial', 'machine', 'networks', 'summarization', 'programming', 'technology', 'automated', 'evaluation', 'statistical', 'connect', 'intelligence', 'cloud', 'science', 'evolution', 'data', 'layout', 'public', 'processed', 'understanding', 'download', 'process', 'comput', 'sign', 'word', 'communicate', 'systems', 'output', 'operating', 'typography', 'information', 'human', 'systems', 'artificial', 'machine', 'networks', 'summarization', 'programming', 'technology', 'automated', 'evaluation', 'statistical', 'connect', 'intelligence', 'cloud', 'science', 'evolution', 'data', 'layout'. The text 'Reverse Mad Libs' is centered in a large, bold, black font. Below it, 'Natural Language Processing' is centered in a smaller, black font. Below that, 'Scott Bing' is centered in a small, black font.

# Natural Language Processing

# Scott Bing

# Agenda

- Introduction
- What is Natural Language Processing
- A Brief History of NLP
- My Project: Reverse Mad Libs Game
- Resources used
- Questions

# What is Reverse Mad Libs?

- A twist on the popular game
- Player one is asked for a list of arbitrary words
- Player two inserts the words into a story
- Player one typically does not see the story until the words are filled in
- Machine uses NLP Algorithms to predict the missing words

# Project Resources

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Python – primary implementation Language

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Pytorch - Python package for Data Science

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Bert – Python NLP Package developed by Google

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Tkinter – PythonPackage for GUI development

# Natural Language Processing

- An attempt to meld human language with computer language.
- Teach a computer how to converse with a human
- Recognize human language
- Computer converse with human



Bert image — sesame street

<https://medium.com/@noa.kel/using-bert-with-pytorch-b9624edcda4e>

# Not this Bert

# Bert (Bidirectional Encoder Representations from Transformers)

- Bi-directional processing
- Transformer



# What is BERT?

# Other NLP Resources

## Best Natural Language Processing (NLP) Software

See more below to select the best Natural Language Processing (NLP) software.

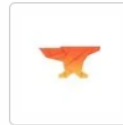
### Popular Natural Language Processing (NLP) Software Categories

#### Natural Language Generation (NLG) Software

Popular Natural Language Generation (NLG) products used by Natural Language Processing (NLP) professionals



**Wordsmith**  
★★★★☆ (12)  
4.4 out of 5 stars



**Article Forge**  
★★★★☆ (11)  
3.3 out of 5 stars



**AX Semantics**  
★★★★☆ (10)  
4.5 out of 5 stars



**Quill**  
★★★★☆ (9)  
4.3 out of 5 stars



**Arria**  
★★★★☆ (3)  
4.7 out of 5 stars



**textengine.io**  
★★★★☆ (3)  
3.8 out of 5 stars

#### Natural Language Understanding (NLU) Software

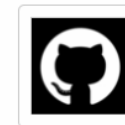
Popular Natural Language Understanding (NLU) products used by Natural Language Processing (NLP) professionals



**Microsoft Knowledge...**  
★★★★☆ (43)  
4.1 out of 5 stars



**Microsoft Bing Spell Check API**  
★★★★☆ (26)  
3.9 out of 5 stars



**FuzzyWuzzy**  
★★★★☆ (18)  
4.1 out of 5 stars



**Amazon Comprehend**  
★★★★☆ (17)  
4.0 out of 5 stars



**Microsoft Language...**  
★★★★☆ (15)  
3.9 out of 5 stars



**spaCy**  
★★★★☆ (15)  
4.4 out of 5 stars



# Why did I choose Bert

- Ease of installation and use
- Unique Parsing Facility
- Works well with Python