



What is NLP?

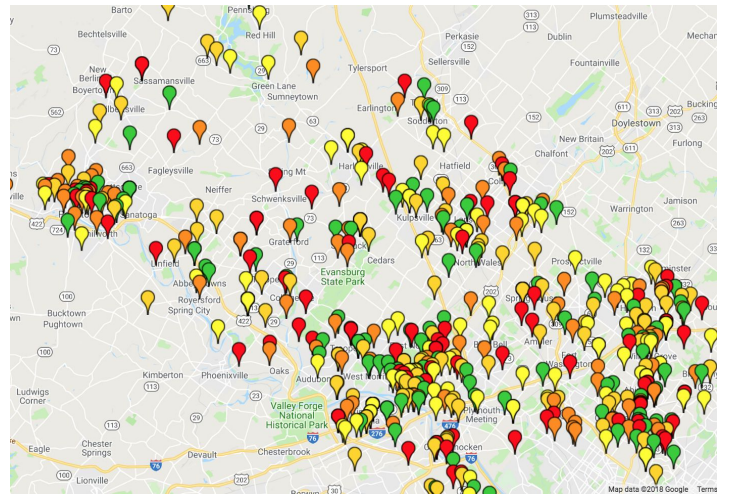
Impact of NLP

Prioritizing Emergency Calls

- Translates words from a transcript to vectors, then figures out which emergency calls need immediate attention
- Created because one of the team member's grandparents died after a 911 call took 21 minutes to respond to.
- [More info](#)

Creators:

A group of rising sophomores in high school
AI4ALL University Programs Alum!
Trisha Sengupta, Viansa Schmulbach, Esther
Cao and Mentor Grishma Jena



DISCUSSION

- How does this software / model help people?
- Who does it leave out?
- How can it include more people?
- Who does it harm?
- What can it do to decrease the harm?
- What problems does it have?
- How can these problems be mitigated?

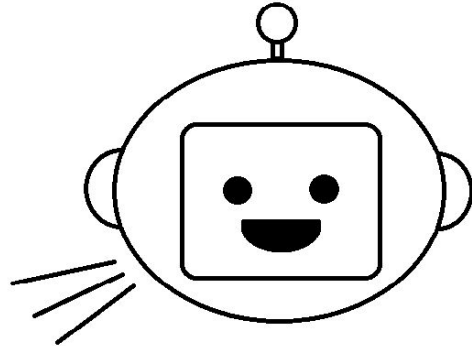
Making People laugh

Twenty Lane Media

- Uses a pattern of how humans write jokes
 - Input: topic sentence
 - Program finds important unrelated nouns in the sentence
 - Finds closely associated words to those
 - Makes a connection between two words in the lists using learned joke techniques
- [More information](#)

Joe Toplyn

- Bachelor in Applied Engineering and Physics and MBA at Harvard
 - Wrote for Harvard's comedy magazine
- Was on the writing staff for Jay Leno and Tonight Show
- Marketed dog food
- Co-created Tri Star Pictures at Columbia



DISCUSSION

- How does this software / model help people?
- Who does it leave out?
- How can it include more people?
- Who does it harm?
- What can it do to decrease the harm?
- What problems does it have?
- How can these problems be mitigated?

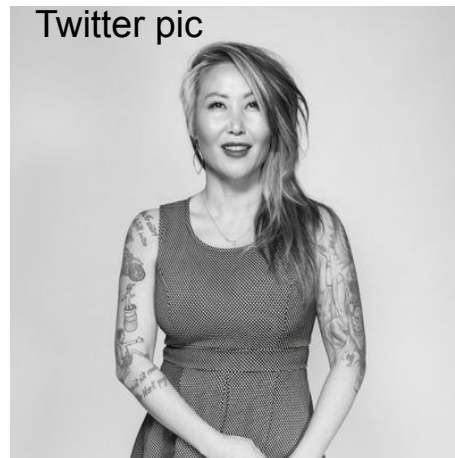
Finding Fake News

- Decides trustworthiness on line-by-line and word-by-word basis
- Identifies fake news bots by patterns of behavior
- [More information](#) on Muckrai and a [paper](#) on similar research



CEO of muckr.ai - Susan Oh

- Some Previously held jobs
 - Journalist at Oh! Communications,
 - Chair of AI: Blockchain for Social Impact
 - Creative Writer for Campaigns
 - Freelance writer for South China Morning Post
- Education
 - Bachelors in Journalism at Ryerson University



DISCUSSION

- How does this software / model help people?
- Who does it leave out?
- How can it include more people?
- Who does it harm?
- What can it do to decrease the harm?
- What problems does it have?
- How can these problems be mitigated?

Ida: The World's First Chatbot for Good

A chatbot that takes in information about people's passions and the kinds of help they'd like to give and matches them to charities



DISCUSSION

- How does this software / model help people?
- Who does it leave out?
- How can it include more people?
- Who does it harm?
- What can it do to decrease the harm?
- What problems does it have?
- How can these problems be mitigated?

Hygiene Scores

- Some states / cities have scores for how well a restaurant meets food safety criteria. People made decisions that way.
 - Foodborne illness went down.
- Now, people make choices with Yelp.
- Yijin Choi uses NLP to “read” reviews, and provide a hygiene score in the app.
- [More info](#)



([source](#))

Creator: Yejin Choi

- Associate professor of Paul G. Allen School of Computer Science & Engineering at the University of Washington
 - Adjunct of the Linguistics department,
 - Affiliate of the Center for Statistics and Social Sciences.
- Senior research manager at the Allen Institute for Artificial Intelligence.

Also uses NLP to:

- predict the success of novels
- Generate captions on images



DISCUSSION

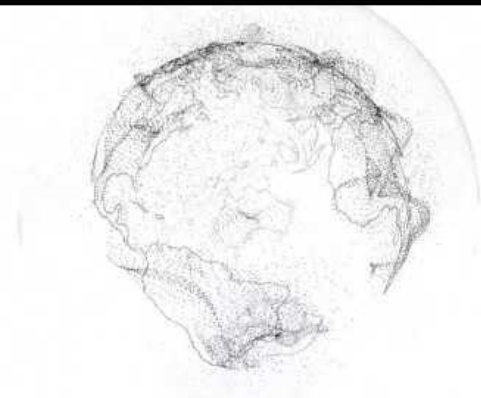
- How does this software / model help people?
- Who does it leave out?
- How can it include more people?
- Who does it harm?
- What can it do to decrease the harm?
- What problems does it have?
- How can these problems be mitigated?

Tracking Infectious Disease - Metabiota

- Tracks infectious disease in part through “reading” Social media
- [More info on Metabiota](#)
- [Article](#) on Metabiota and others using AI to battle Coronavirus
- More on NLP in Medicine: [article](#) on patient readmittance

CEO Nita Madhav

- Has been Head of Data Science, Principal Scientist study
- BS Ecology and Evolutionary Biology at Yale
- MSPH Epidemiology at Emory University



DISCUSSION

- How does this software / model help people?
- Who does it leave out?
- How can it include more people?
- Who does it harm?
- What can it do to decrease the harm?
- What problems does it have?
- How can these problems be mitigated?

Translating Lost Languages

- Linear A is a language from around 1400 BCE that nobody has been able to translate since it was found in 1886.
- Using the same techniques to translate between living languages, Regina is able to start translating Linear A
- [More information](#) and [article](#)

Regina Barzilay

- Also uses Machine Learning to detect cancer
- Delta Electronics professor in the Department of Electrical Engineering and Computer Science and a member of the Computer Science and Artificial Intelligence Laboratory at MIT

© AI4ALL, 2019. May be reproduced with permission.

[Source](#)



[source](#)

DISCUSSION

- How does this software / model help people?
- Who does it leave out?
- How can it include more people?
- Who does it harm?
- What can it do to decrease the harm?
- What problems does it have?
- How can these problems be mitigated?

NLP in School

- Read this article about an NLP program that finds when students are working on questionable things:
<https://www.wired.com/story/algorithms-monitor-student-social-media-posts/>

DISCUSSION

- What does your school do to monitor students on the computers?
- Do you feel safer knowing your principal has this information? Why might you feel safer? Why might you feel less safe?
- What room for bias exists in these systems?

GPT-2 - Examples

GPT is a cutting-edge NLP model that generates text based on a prompt. Check out some answers it has given:

- This [blog post](#) gives a few examples
- This [site](#) collects famous poems completed by GPT-2

GPT-2

Generate your own text

At [Hugging face](#) you can try this out for yourself. Give it some text, and see what it generates. If you regenerate using the same text it will give you different answers.

Try:

- Sentences from essays you've written
- Titles of some of your favorite books - what titles does it generate?
- Sentences from your favorite books
- The first few lines of a poem

DISCUSSION

- What in the text was believable?
- What was unbelievable?
- How is it useful to be able to generate text this believable?
- What is a problem with being able to generate text this believable (or more)?
- What can AI developers do to help solve these problems?

Exit ticket: Unit 1.03 - NLP Impact

Do you think NLP is good for society? Why or why not?