THATCamp ASEEES 2016: Topic Modeling

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What is Topic Modeling?

Why is it relevant for DH?
When might it be useful?

What is Topic Modeling (TM)?

- TM is a form of **large-scale** textual analysis
- Most TM uses an algorithm called Latent Direchlet Allocation (LDA)
- LDA iterates over a corpus, measuring the mutual proximities of words
- Words that frequently appear near other words are clustered together creating a “topic”
- The sum total of topics is referred to as the “topic model”

What parameters matter in TM?

- This will not work on a small corpus.
- As the executor of LDA, you decide how loosely these topics are bound: the more topics, the closer the mutual proximity of words in the corpus.
- Generally, larger corpora require more topics (but not always - it might take some finagling before you have meaningful results).

Why is TM useful?

- The computer has not sense of semantic meaning when examining a text and thus may make draw connections between terms or texts we would not see with the human eye.
- TM can be used to trace trends across enormous volumes of text, making large-scale analysis far less time consuming.

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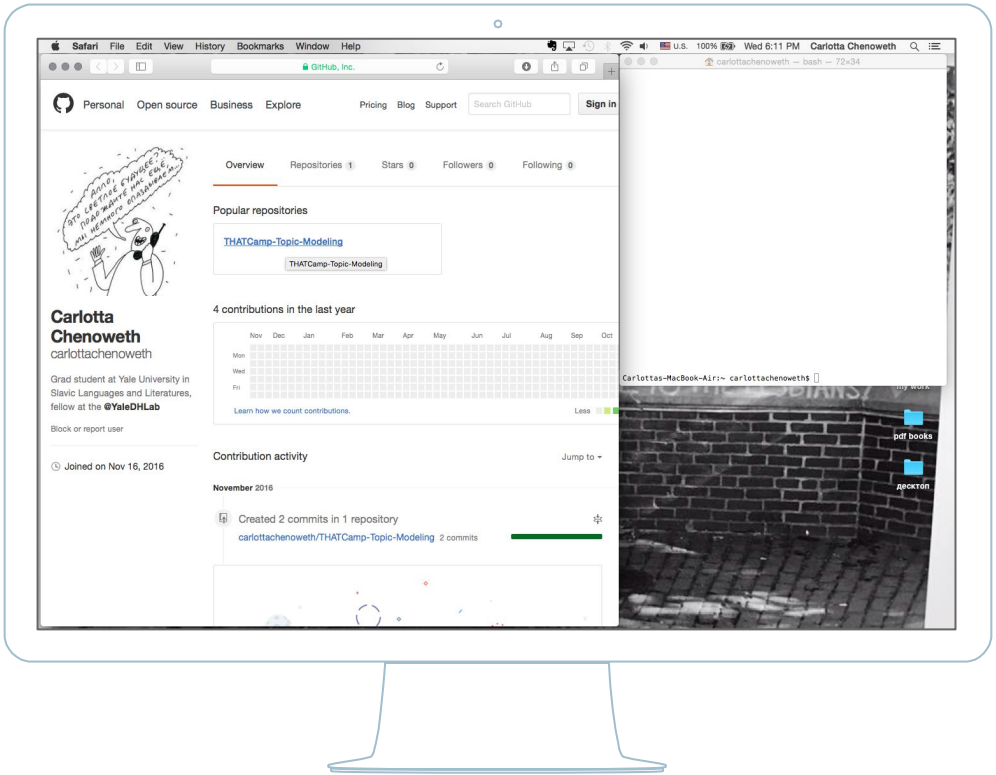
How to Implement TM

What software do you need?
Where do you get your corpus?

Today's object of study:
167 poems by Vladimir Mayakovsky

- Scraped from wikisource.org
- Using MALLET, LDA software developed by Andrew McCallum at UMASS
- There are other algorithms and/or programs that can be used. MALLET is the most common and user-friendly.



Go to: github.com/carlottachenoweth

Open Terminal (Mac) or Command Prompt (PC)

Online resources:

Detailed explanations for setting up MALLET on PC:

http://programminghistorian.org/lessons/topic-modeling-and-mallet

MALLET Homepage (UMASS):

http://mallet.cs.umass.edu/

List of other TM software applications from David Blei (Princeton):

https://www.cs.princeton.edu/~blei/topicmodeling.html

Stanford TM Toolbox:

http://nlp.stanford.edu/software/tmt/tmt-0.4/

Publications on TM:

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