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# Recommending Music via Textual Reviews

— Michael Cantrell, PhD —

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# Idea

Text may reveal nuance that 5 star ratings and up/down votes do not



## Recommendation based on: **Smashing Pumpkins**

Spotify	Pandora	Amazon	My Recommender
Smashing Pumpkins	Nirvana	Smashing Pumpkins	Radiohead
Audio Slave	Mazzy Star	Smashing Pumpkins	Muse
Deftones	Nirvana	Smashing Pumpkins	Tori Amos
Pearl Jam	Foo Fighters	Smashing Pumpkins	Counting Crows

Million Dollar  
Algorithm

Up/Down Votes

5 Star Ratings

**Textual Reviews**

## Data

170K reviews of 4,000 CDs

1.5M sentences

**amazon.com**<sup>®</sup>

J. McAuley, C. Targett, J.  
Shi, A. van den Hengel.



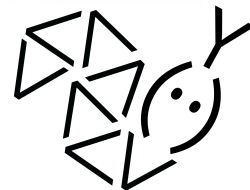
## Back End

NLTK, NMF, pandas

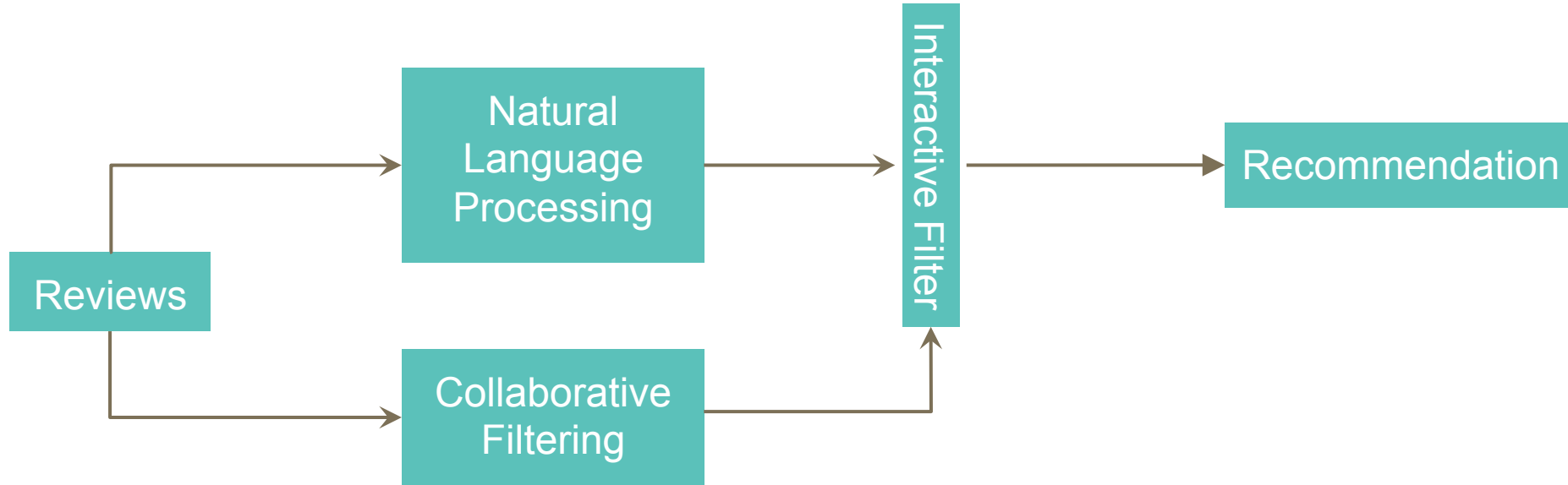


## Front End

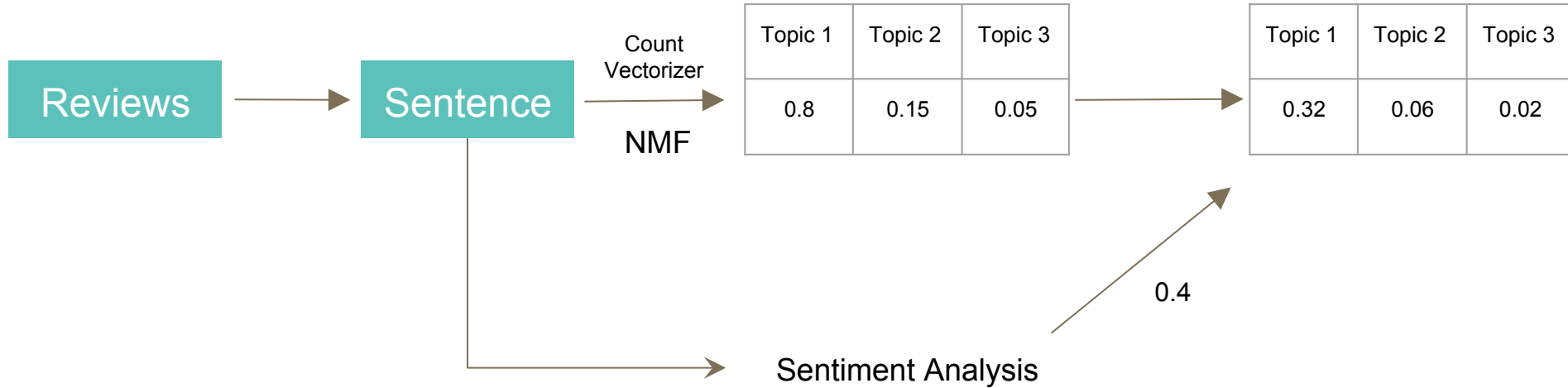
Interactive Web App



# Process



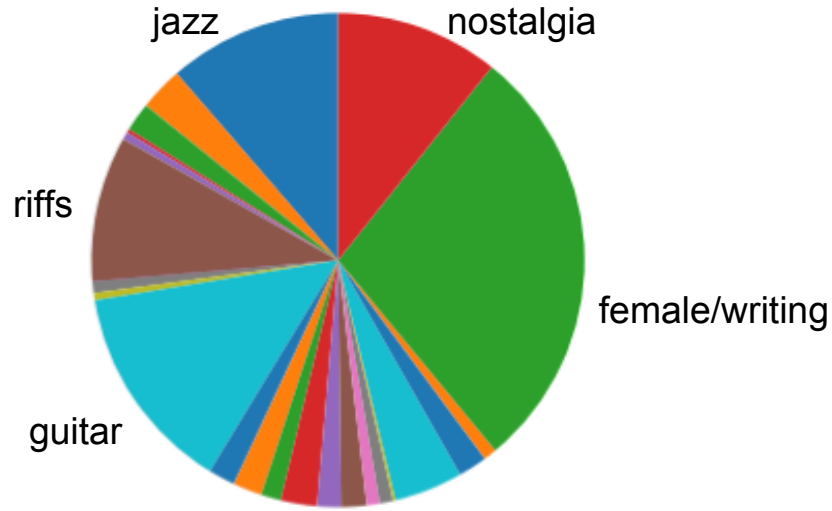
# NLP Process



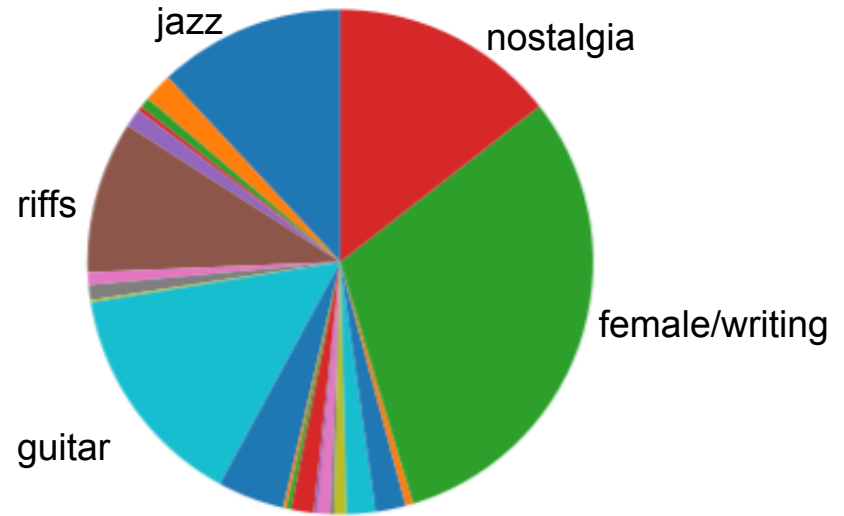
# Example Album as Vector

	jazz	rolling stones	led zeppelin	hip hop	dylan/folk	riffs	punk	rap	van halen	guitar	pink floyd	hot single	mccartney
Smashing Pumpkins	30.06	7.57	4.95	0.63	1.31	25.54	-0.39	2.04	1.25	36.16	4.66	5.05	3.45
	death metal	country	deep purple	dance	sabbath/ozzy	latin	concert	iron maiden	ac/dc	female/writing	nostalgia		
	6.27	4.16	4.36	2.27	2.3	0.45	11.91	5.02	2.25	74.73	28.33		

# NLP Recommender



Smashing Pumpkins



Radiohead



# Word Riff

Using natural language processing to make novel recommendations



## Interactive Recommender

From safe to experimental - you choose

[Check it out »](#)



## Free Form Text Recommender

Describe what you want to hear in words

[Check it out »](#)



## Musical Mashup

Find the musical love child of your favorite albums

[Check it out »](#)

**Play with the app:**  
**[www.worddriff.pythonanywhere.com](http://www.worddriff.pythonanywhere.com)**

**Thanks!**

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<https://github.com/michaelaaroncantrell>