

My Honor!

A Language Model for
Avatar: The Last Airbender
Fanfiction

Andrew Zhou
13 November 2020



01

Why fanfiction?

And what is it?





Dataset

- Archive of Our Own (AO3)
- *Avatar: TLA* Fanfiction
- Popular, single-chapter
- Non-explicit
- 794 Works



Insights

- Recent resurgence
- ~9000 works since April 2020
- ~18000 works since 2008
- Well-defined subgenres
- Evolving trends
- Singular focus on Zuko

02

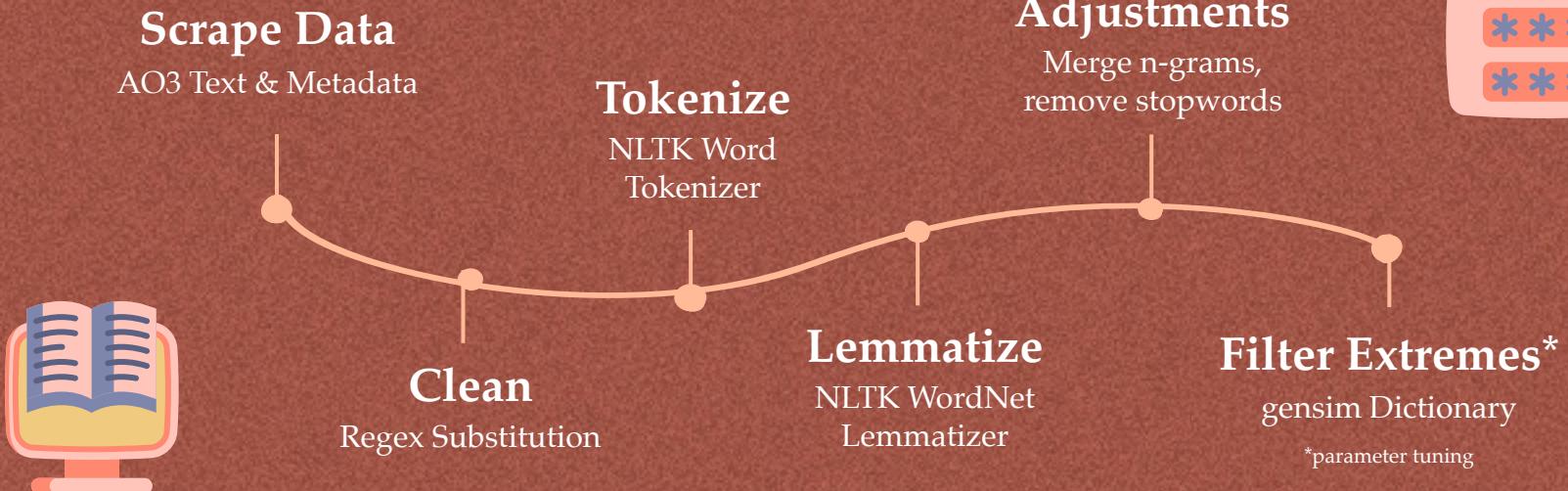
The Data

Acquisition,
Cleaning,
and Formatting



<https://archiveofourown.org/>

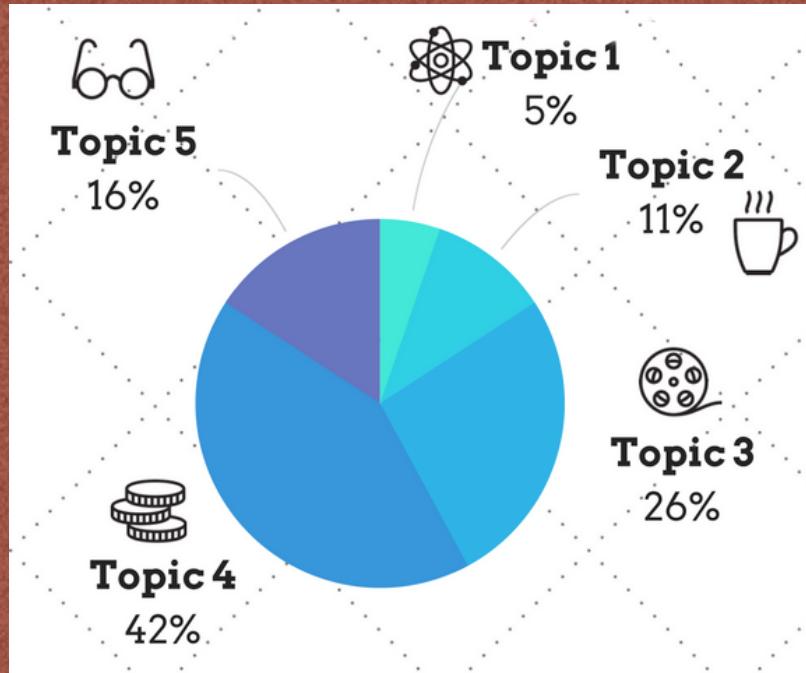
Preprocessing



03

The Model

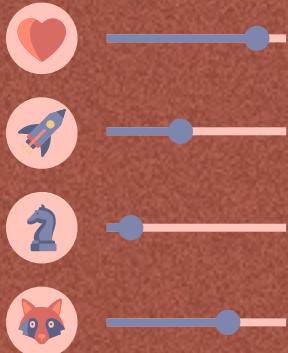
Topic Modeling
with LDA



Gensim Model Tuning



1. Select Params*



2. Train Model



3. Get Coherence



Best coherence
improves...



And we have
our model!

*num topics, alpha, beta, min vocab threshold, max vocab threshold



Best Model

- 11 topics
- alpha: asymmetric
- beta: symmetric
- Vocabulary Thresholds
 - Min. 20 documents
 - Max 27% of documents
- 500 iterations, 30 passes



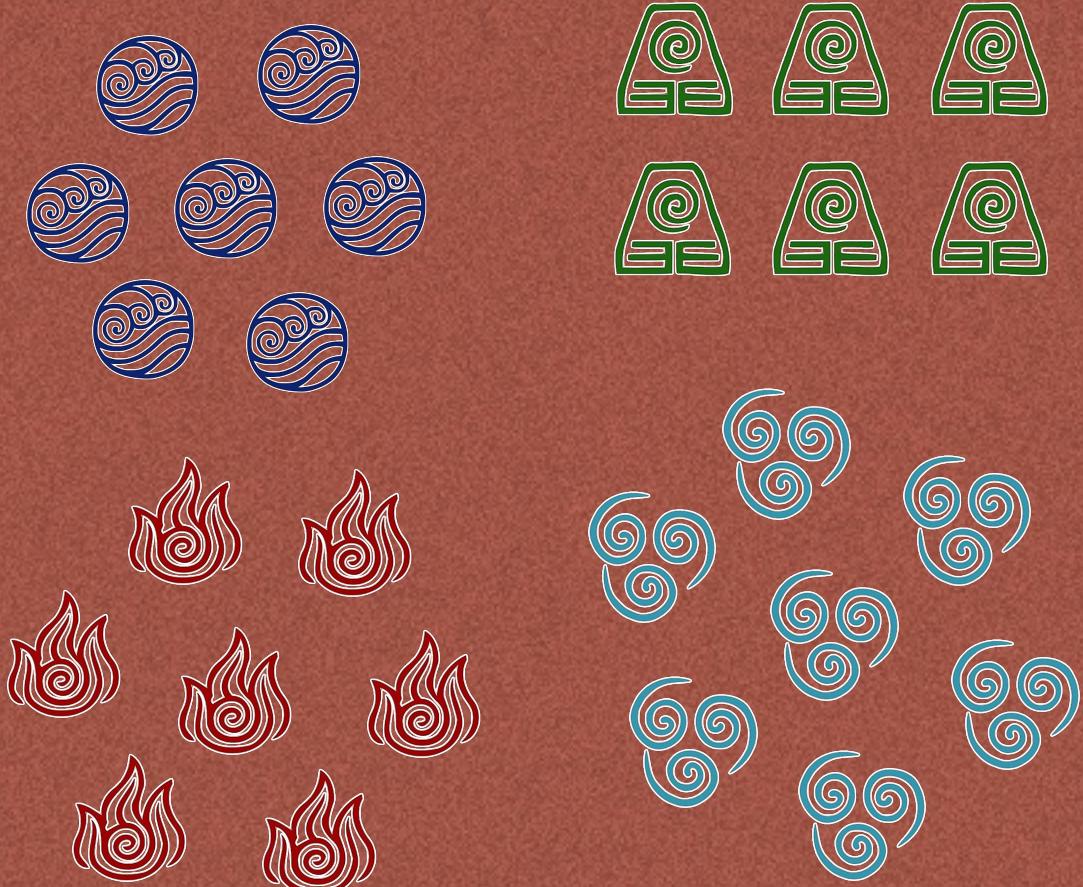
Topics

- Some highlights:
 - School AU: 'date', 'boyfriend', 'blush', 'class,' 'awkward,' 'school'
 - Uncle Iroh: 'dragon,' 'soldier,' 'nephew'
 - Bonding with Gaang: 'appa,' 'bison,' 'tent,' 'temple,' 'giggle,' 'poke,' 'scowl'
 - Fire Court: 'grandfather,' 'izumi,' 'throne,' 'ambassador,' 'advisor'
 - Hakoda: 'hakoda', 'bato,' 'snow,' 'tribe'
 - Coffee Shop AU: 'phone,' 'car,' 'kitchen,' 'drink,' 'jasmine dragon'
- Subgenre identifiers

04

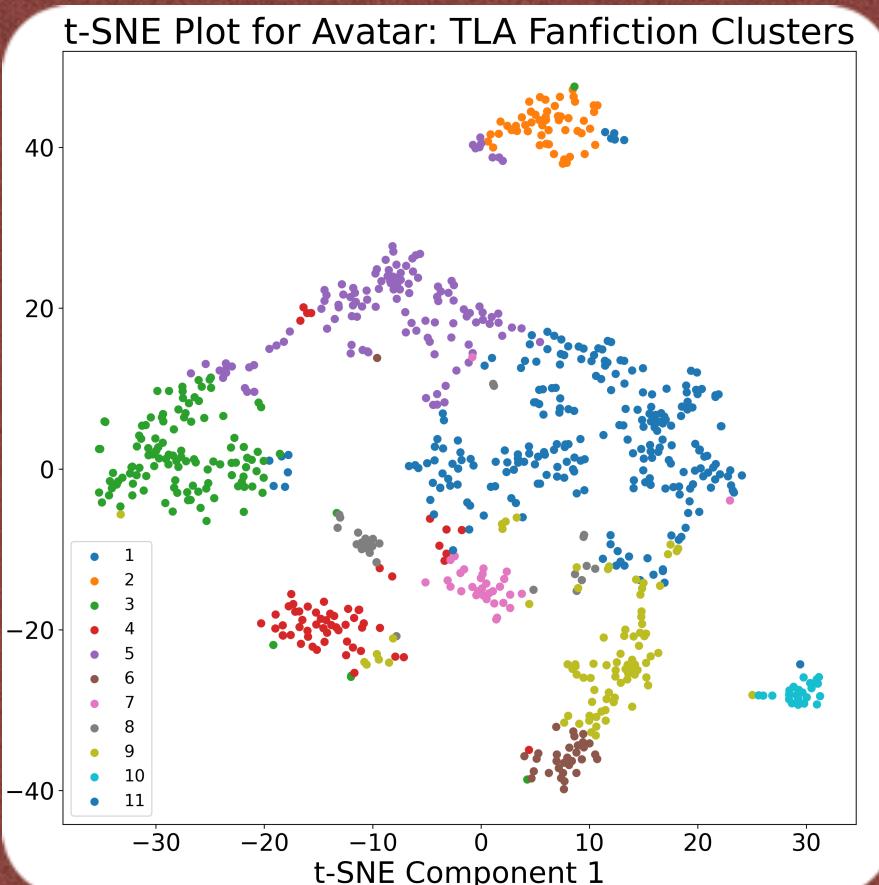
Clustering

- Use top LDA topic for each fanfiction to assign a “soft” cluster
- t-SNE on LDA topic components to plot



Clusters

1. Ba Sing Se
2. Modern School AU
3. Zuko's Trauma
4. Water Tribe Romance
5. Uncle Iroh
6. Bonding with Gaang
7. Fire Court
8. Hakoda
9. Jet & Freedom Fighters
10. Coffee Shop AU
11. Blue Spirit



05

Recommender App(a)

- Cosine distance to topic distributions previous favorites
- One favorite, or a list
- Word cloud!

Yip Yip! A Fanfiction Recommendation App(a)

Input your favorite Avatar: *The Last Airbender* fanfics and I'll recommend similar ones from my database.

Copy paste a favorite fanfic!

feverish to the touch, then nearly untouchable. Healer Kustaa hypothesized that they now had a feverish firebender on their hands. It was, hopefully, still within the bounds of normal for their kind.

This did nothing to stop the escape attempts, which began promptly the moment Kustaa left him alone to make his report.

Add to Favorites Clear Favorites Refresh Recommendations

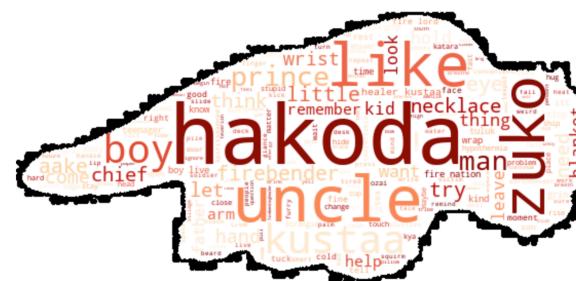
Favorite Fanfics:

They didn't have steel cuffs, or a brig. No spare rooms they could convert into a holding cell, no m...

I recommend:

the family we choose by natlar, MuffinLance:
In retrospect, Hakoda really should have seen this whole thing coming. It h...
this is no longer yours to bear alone by disgruntled_lesbian:
the last time hakoda had seen the kid, zuko had been running towards danger...
The Crown Hangs Heavy by monpetitpois:
They told the story late at night around a campfire. A harrowing tale, tru...
Aake Won't Be Fooled by deutschistklasse, MuffinLance:
Aake knew his place in the world. He was Water Tribe, a warrior,

What words do my favorite fics use?



06

Future Work

What's next?

- Identify shifts in trends (characters, theme, etc.) over time
- Extend to other fanbases
- Cross-fanbase analysis and recommendations

Thank you!

Credit to:

- Slidesgo
- *Avatar: TLA* Creators and Staff
- AO3 and fanfic authors
- various image attributions
- Metis staff & students