DUNGEONS AND DATA

What are the component parts of a DnD game?

Can we improve player experience with an AI system?

PRESENTED BY PATRICK BROWN

AN OPEN ENDED EXPERIENCE

Cooperative Game

- X - Players

"Dynamically generated"

- Dungeon Master guides story

Language Driven

- Action/Story created through dialogue
- Little reliance on physical representations

DATA

DnD Session Transcripts

Transcripts scraped from podcasts

- Critical role
- Dimension 20
- Adventure Zone

817 Sessions

- Average 1.5h/session
- > 1,000,000 Unique Exchanges

TOOLS

Beautiful Soup

- Web Scraping

NumPy/Pandas

- Data Handling

Sklearn

- Modeling

PyTorch

- Modeling

Spacy

- NLP

Sentence Transformers

- NLP

HuggingFace

- NLP

APPROACH

Transcripts parsed

- 1 Doc = 1 Verbal Exchange

Clean Docs

- Remove Duplicates
- Separate Speakers

Embed Documents

- Each doc embedded with Sentence Transformers

Final Dataset

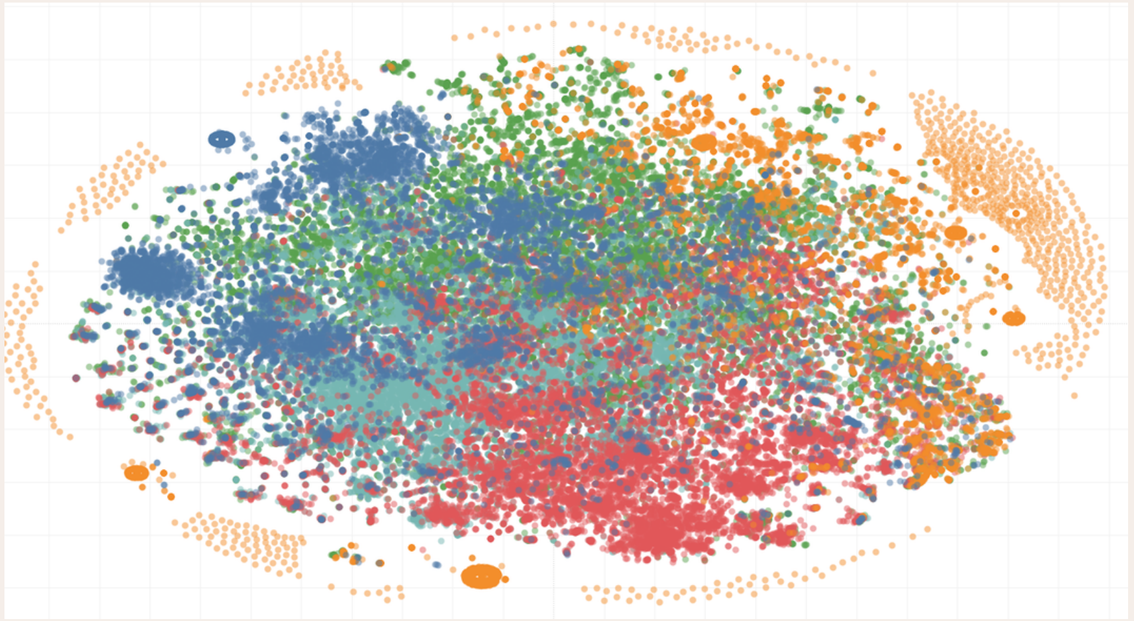
- (1387497, 768)

Modeling

- Precision: 0.53

Mini Batch KMeans*

- 5 Cluster



RESULTS

Cluster 0 (Dialogue)

- Go for it. I was just gonna say, I actually did not answer one of the questions that you had posed to me earlier.
- Screams and then looks over at Ricky and goes, Ricky-

Cluster 1 (Affirmations)

- Okay, cool.
- Great. I tried.

Cluster 2 (Gameplay/Actions)

- I'll see if I can find Dairon.
- It is a calculated risk and we are going to do this...

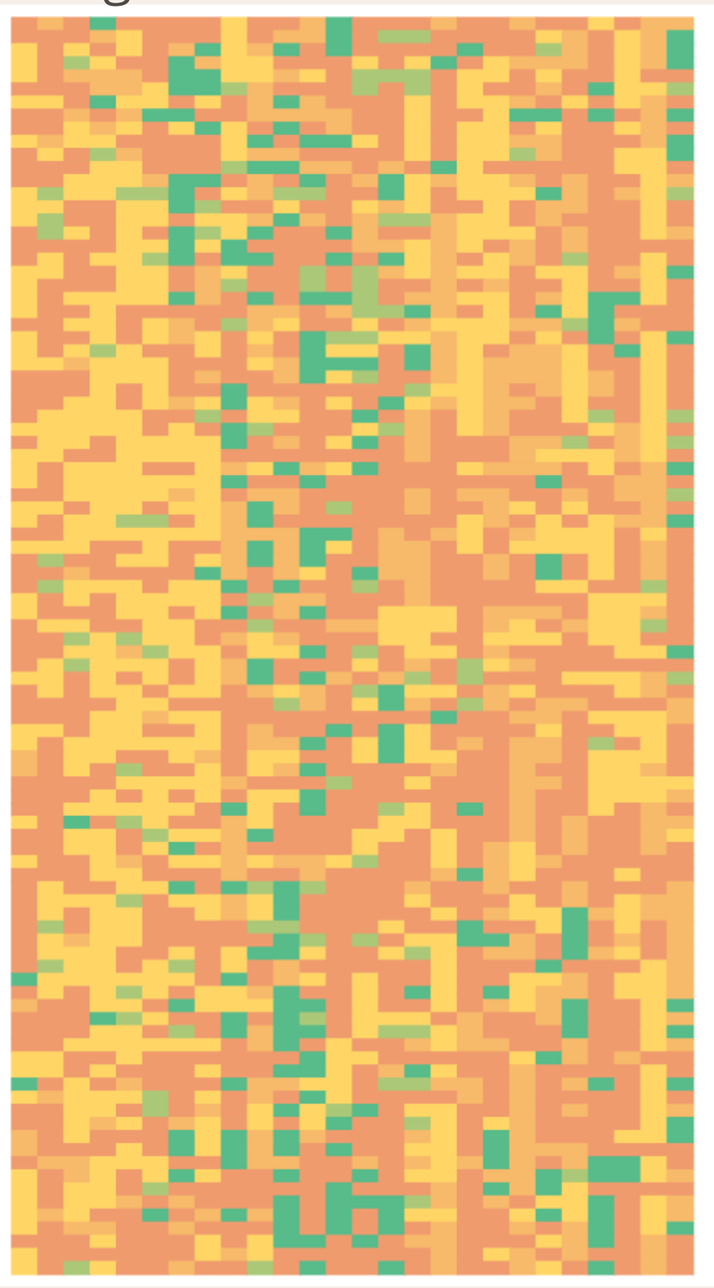
Cluster 3 (Gameplay/Narrative)

- He is fast asleep, and just ripping the gnarliest snores you've ever heard, because he is still a goat...
- And she is panicked, when you roll up...

Cluster 4 (Exclamations)

- Try!
- Let's Go!

Beginning Session



End Session

DEMO

DND
LANGUAGE MODEL

Hosted with HuggingFace

https://huggingface.co/PatrickTyBrown/GPT-Neo_DnD

NEXT STEPS

Modeling

- Utilize larger more robust pretrained language models

Preprocessing

- Filter interactions to remove purely social interactions from training
- Label interactions with found categories