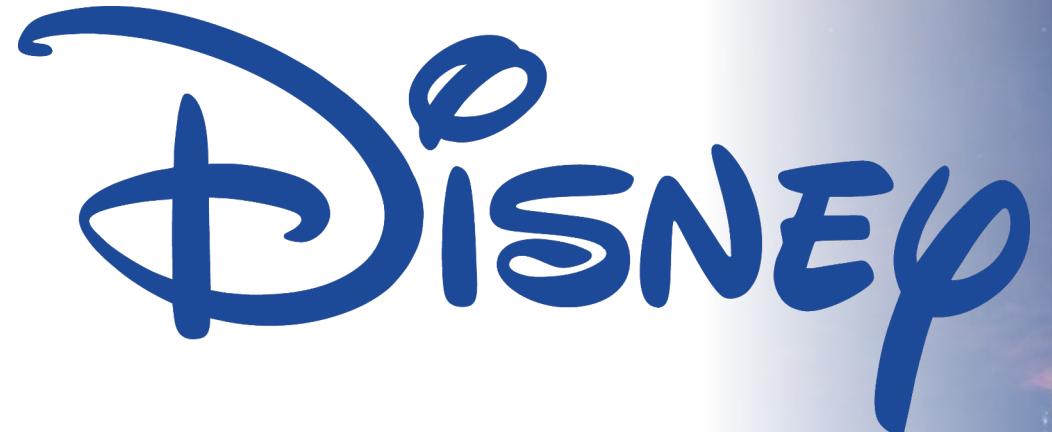


Movie Night with



Hannah Lewis

September 17, 2021



Overview

Motivation

- Choosing a movie to watch can be difficult!

Objective

- Use NLP to create topic model based on summaries of Disney movies

Results

- Movie recommendations based on two favorite Disney movies



Data & Methods



- Summaries scraped from the Walt Disney Archives

- Plot summary
- Release date
- Cast/crew
- Awards
- Background/inspiration
- Illustration techniques/film technologies

Data & Methods



- Summaries scraped from the Walt Disney Archives

- Preprocess and tokenize using spaCy;
vectorize using CountVectorizer
 - Named entities merged to single tokens

spaCy

- merge_entities: “Walt”, “Walt Disney”, “Walt Disney Studios”
each as single tokens without making n-grams

Data & Methods



- Summaries scraped from the Walt Disney Archives

- Preprocess and tokenize using spaCy;
vectorize using CountVectorizer
 - Named entities merged to single tokens

spaCy

- Used CorEx for topic modeling with anchor topics
 - E.g., [Mickey, Mickey Mouse, Pluto], [live, action], [educational]

Disney Movie Recommender

FOR YOU
OR
FOR TWO



Disney Movie Recommender

FOR YOU





Disney Movie Recommender

- Given **your** favorite Disney movie, recommends the **most similar movies**

- Calculate cosine distance between the movie and all other Disney movies
- Return N movies with the smallest distances

Disney Movie Recommender

FOR TWO



Disney Movie Recommender

- Given your favorite Disney movie **AND** the favorite Disney movie of a friend, recommends **movies that are similar to both**

- Calculate cosine distance between each movie and all other Disney movies
- Score all movies (sum of ranked distances)
- Return N movies with the smallest scores



Disney Movie Recommender



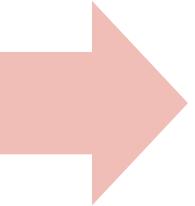
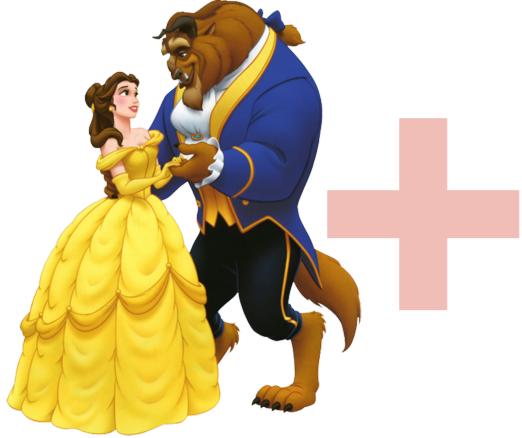
- Beauty and the Beast (2017)
- Lady and the Tramp
- The Lion King



Disney Movie Recommender

- The Incredibles
 - Bolt
 - Atlantis: The Lost Empire

Disney Movie Recommender



- 20,000 Leagues Under the Sea
- Pete's Dragon
- The Chronicles of Narnia

Conclusions & Future Work

- Recommender finds broad, common themes between multiple movies
- Scrape more detailed plot summaries, summaries for new releases
- Launch recommendation system in a webapp
- Collect input movie pairs and get user ratings on recommended movies (collaborative filtering)



Disney
Movie
Recommender

Questions?



A nighttime photograph of the iconic Disney castle, illuminated from within and featuring colorful lights on its towers. A large, bright, curved light effect resembling a shooting star or comet arc sweeps across the dark blue sky above the castle. The castle is situated on a green island with a bridge leading to it, surrounded by water. The background shows a dark sky with some clouds and distant lights.

APPENDIX

Anchor Topics

- ['mickey', 'mickey mouse', 'pluto']
- ['donald', 'donald duck', 'nephew']
- ['live', 'action']
- ['academy', 'award']
- ['pooh', 'tigger', 'piglet']
- ['educational']

Sampling of Topics

- **Animated movies:** voice, animate, animated, theater, imax, dvd, animation, animator, king, jim cummings
- **Award winning movies:** academy award, nominate, award, academy, best, version, winner, james algar, jiminy cricket, later
- **Romantic movies:** marry, soon, husband, parent, child, romance, sister, local, lady, happy
- **Sports movies:** high, team, coach, hope, college, school, object, double, football, building
- **Heroes vs. villains:** hero, hold, planet, mind, villain, extraordinary, earth, powerful, power, leader