
GREY'S ANATOMY EPISODE RECOMMENDER APP

METIS DATA ENGINEERING PRESENTATION 5/18/22

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ANALYSIS BEHIND THE RECOMMENDER

- Web scrape episode summaries
- Topic modeling
- Cosine similarity using topic scores as vectors
- Recommend 10 most similar episodes based on cosine similarity



TOPICS HAVE CHANGED OVER THE YEARS

- 18 seasons
- Changing cast
- Medical advances in the last 2 decades



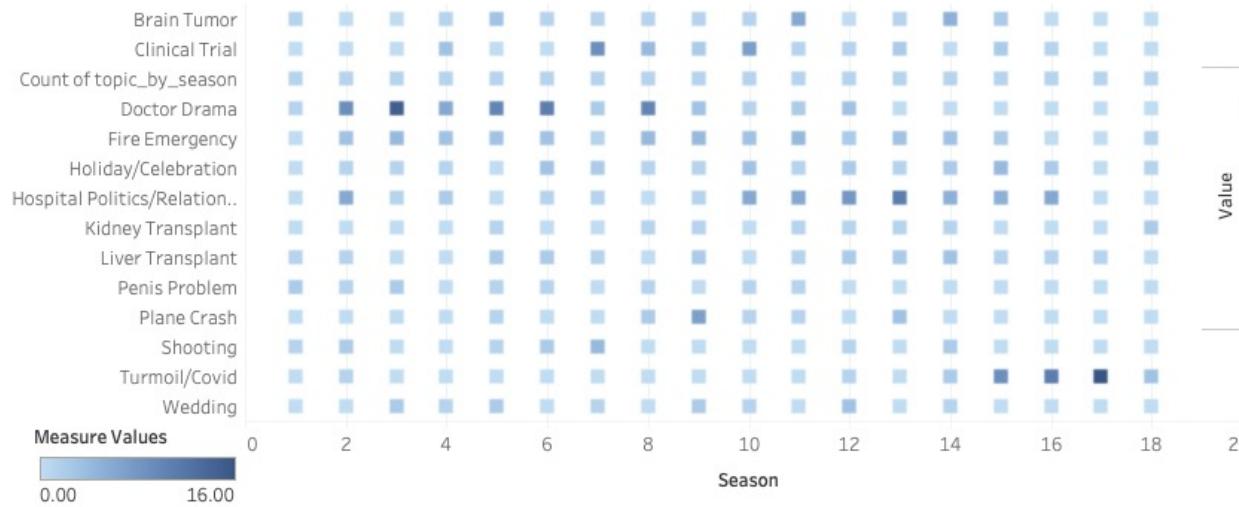
TOPIC MODELING & COSINE SIMILARITY

- Use TFIDF word vectors and NMF modeling
- 13 topics
- Episode vectors of topic scores
- 10 episodes with highest cosine similarity = recommendations

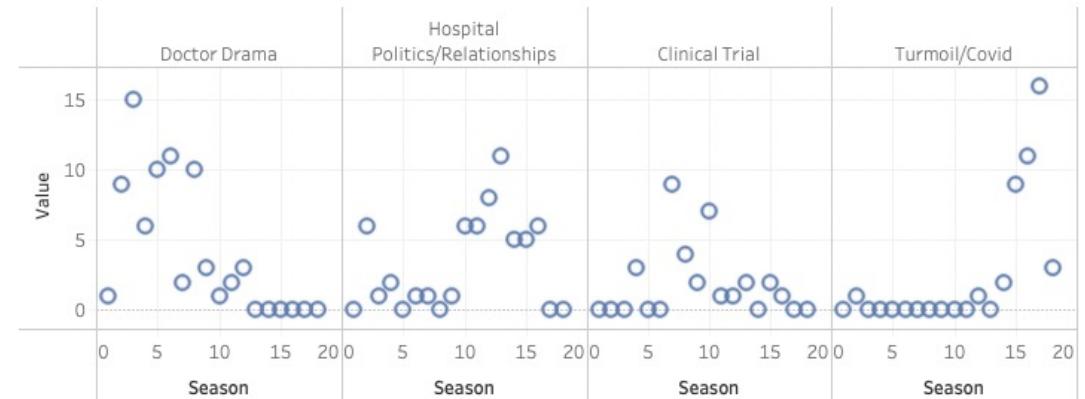
	Doctor Drama	Wedding	Brain Tumor	Kidney Transplant	Penis Problem	Plane Crash	Fire Emergency	Hospital Politics/Relationships	Turmoil/Covid
0	0.132556	0.000000	0.000000	0.000000	0.029900	0.000000	0.000000	0.047147	0.000000
1	0.000000	0.000000	0.000968	0.000000	0.372593	0.000000	0.028688	0.000000	0.000000
2	0.000000	0.000000	0.000000	0.021834	0.139247	0.007221	0.023243	0.016600	0.000000
3	0.004645	0.000000	0.000483	0.000000	0.036437	0.000000	0.000000	0.047589	0.011987
4	0.061272	0.004142	0.129553	0.000000	0.030666	0.000000	0.000481	0.018041	0.011994



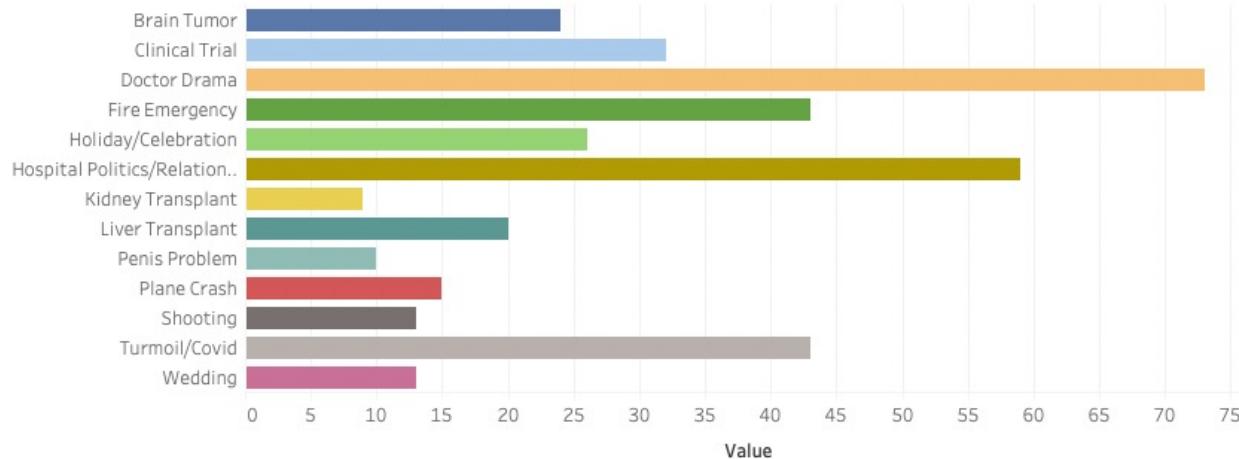
All Topics and Seasons



Select Topics Over Time



Topics Overall

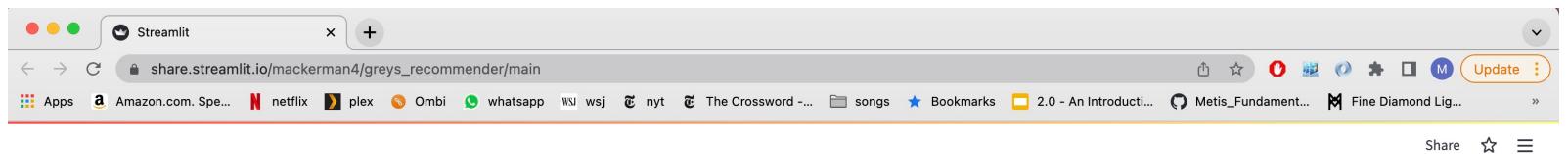


Measure Names

Brain Tumor
Clinical Trial
Doctor Drama
Fire Emergency
Holiday/Celebration
Hospital Politics/Relationships
Kidney Transplant
Liver Transplant
Penis Problem
Plane Crash
Shooting
Turmoil/Covid
Wedding

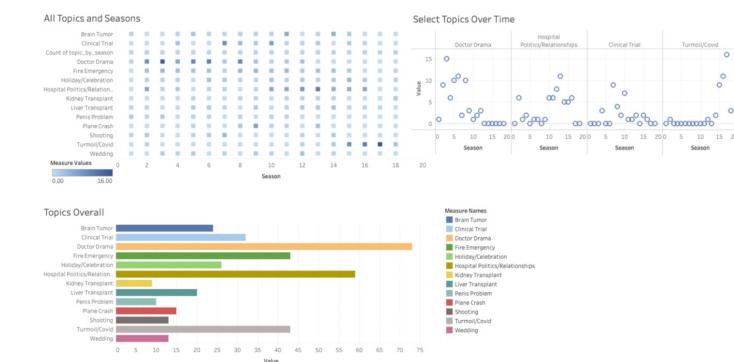
DEPLOYING THE APP

- Streamlit
- User selects episode from menu based on episode guide
- App returns a list of 10 recommended episodes



What Episode of Grey's Anatomy Should You Watch Next?

Grey's Anatomy episodes can be distilled into 13 topics based on their summaries. The below graphs reveal how these topics changed over the years.



Topic breakdowns of episodes

Find episodes most similar to your favorite episodes with this recommender. Just use the episode guide to find your favorite episode and select it from the dropdown menu below!

[Manage app](#)

Chrome File Edit View History Bookmarks Profiles Tab Window Help

box ⓘ ⚡ 🔍 Tue May 17 6:23 PM

Streamlit

share.streamlit.io/mackerman4/greys_recommender/main

Update

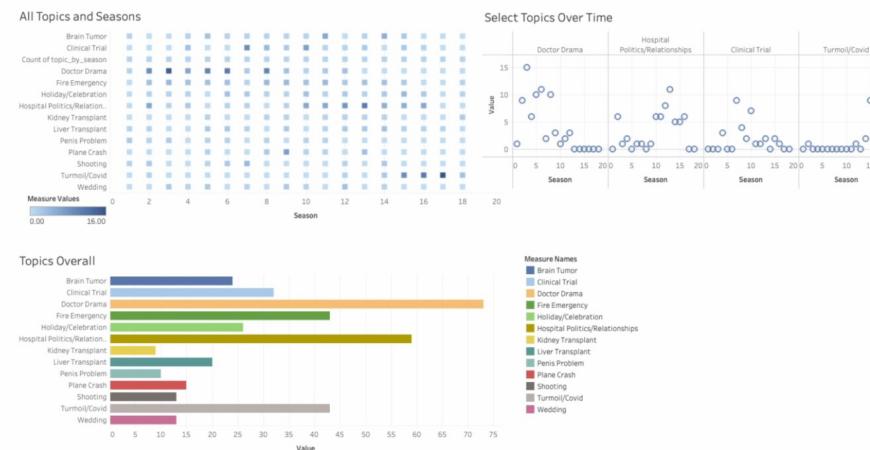
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Share ⭐

The screenshot shows a Streamlit application running on a Mac OS X desktop. The title bar indicates it's a Streamlit app at share.streamlit.io/mackerman4/greys_recommender/main. The dashboard features a main title 'What Episode of Grey's Anatomy Should You Watch Next?' followed by a subtitle explaining the analysis of 13 topics across 18 seasons. Below this are four data visualizations: a heatmap titled 'All Topics and Seasons' showing the count of topics per season; a scatter plot titled 'Select Topics Over Time' showing the value of specific topics over time; a horizontal bar chart titled 'Topics Overall' showing the total value for each topic; and a legend for the topics. At the bottom, there's a call to action to find episodes most similar to favorite ones.

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Manage app



CONCERNS ABOUT THE MODEL

- Generally good topic splits
- A couple topics too vague
- Using summaries vs. full transcripts
 - Potential issues with fan site's summaries
- How similar are the recommendations?
 - Use similarity threshold?



MOVING FORWARD

- Do transcripts generate similar topics?
- Episode recommender based on topic preferences
- More information about topics and similarity in recommendations



THE END



Who here feels like they have no idea
what they're doing?