FEATURE PRESENTATION

MICROSOFT'S
NEW MOVIE STUDIO

STARRING MATTHEW ANDREWS, TREVOR MOTT

Ladies and Gentlemen, please take your seats, tonight's feature presentation
-Microsoft's New Movie Studio
Starring Matthew Andrews and Trevor Mott
- is about to begin

Overview:

Our mission, that we've chosen to accept, is to:

-Analyse data from the movie industry

-Explore what goes into making a successful movie

-Provide actionable insights

Question 1:

How has the Popularity of Different Genres Changed Over Time?

To begin with I'll be looking at: How has the Popularity of Different Genres Changed Over Time?

To do this I'm going to need a Movie DataBase. I'm going to need The Movie Database

Data Source:

TMDB -The Movie DataBase

-For reliable vote scores: Only considering films with 5 or more votes
-Only looking at films ~2010-2019
    -This is still almost 13k films

Engineered Features:

Used the TMDB data to create statistics for time-points with a
6-month rolling window

(To do this I'm going to need Data. Movie Data. A Movie DataBase. The Movie
Database)

(Popularity column -just a snapshot of popularity at the time the data file was created
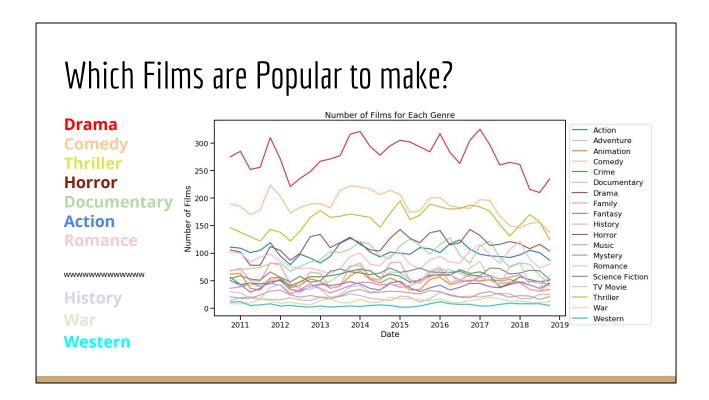-not what I want. I'll be looking at the films' average-vote-scores and vote-amounts)
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(Almost 13k = 12784)
TMDB - what kind of columns NOT popularity
-For reliable vote scores: Only considering films with 5 or more votes
-Only looking at films ~2010-2019
    -This is still almost 13k films

Engineered features: er, everything. I shan't go into detail now

And now, we're going to take a journey through some graphs, each one with a
different lesson to teach us.

Which Films are Popular to make?

Drama
Comedy
Thriller
Horror
Documentary
Action
Romance

wwwwwwwwwwwwww

History
War
Western

Number of Films for Each Genre

Legend: Action, Adventure, Animation, Comedy, Crime, Documentary, Drama, Family, Fantasy, History, Horror, Music, Mystery, Romance, Science Fiction, TV Movie, Thriller, War, Western

We're going to take a journey through some graphs, each one with a different lesson to teach us.
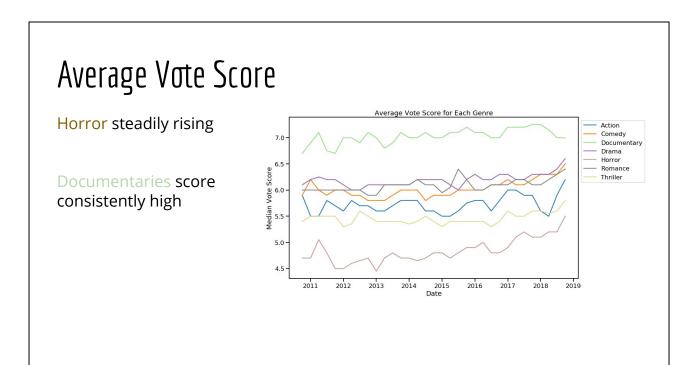
As you can see, the data for 17 genres is a lot to take in.
And so, for now, needing to focus on a subset, I've chosen the seven most common genres.[Genres]

At the bottom end: History, War, Western
First focus on the top: Drama, Comedy, Thriller, Horror, Documentary, Action, Romance

Firstly I'll look purely at the average scores

Average Vote Score

Horror steadily rising

Documentaries score
consistently high

Average Vote Score for Each Genre

Looking purely at the average vote:

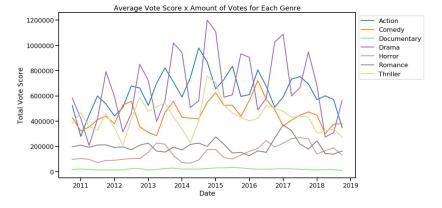Have to note how Horror is showing a steady increase

Documentaries would seem like the way to go.

But this doesn't quite show the whole story...

Total Vote Score

Documentary:
Low Total score

Total Vote Score =
Av. Vote x Num. Votes

Cyclic:
Best release season:
Summer: Action
Autumn: Drama

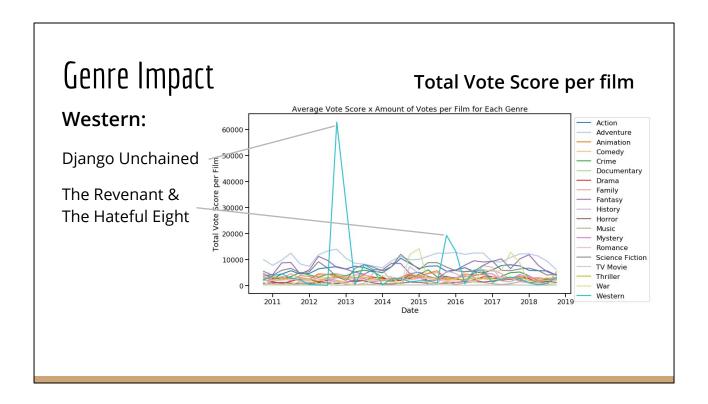Average Vote Score x Amount of Votes for Each Genre

Here we find Documentary at the bottom of this graph, what happened, what is this graph...
A films total vote score is its average vote score multiplied by the number of people who voted for it. And here they are summed together for each genre

This means that, although the people who like documentaries, like them a lot, they're only for a small audience.

Another lesson from this graph is the cyclic nature of Action (in the Blue) and Drama (in the purple) show which time of the year it is best to release a film of that genre.
Action: Summer; Drama: Autumn

The genre's Total score doesn't take the number of films into account -more films, even if unpopular, would push up the score. So if we look at the total score per film:

Genre Impact

Total Vote Score per film

Western:

Django Unchained

The Revenant &
The Hateful Eight

Average Vote Score x Amount of Votes per Film for Each Genre

The genre's Total Vote Score doesn't take the number of films into account -more films, even if unpopular, would push up the score. So here is the TVS per film

At the start I pointed out that the genres with the fewest films made were History, war and, at the very bottom: western. However this means they are the genres where you can make the biggest impact.

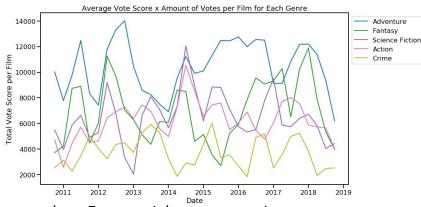As demonstrated here by Django Unchained and The Revenant with The Hateful Eight

But we're new and we can't guarantee ourselves a Django Unchained, so let's look for genres with a bit more consistency

Consistent Popularity

Most consistently
popular genres:

Adventure
Fantasy
Action
Science Fiction
Crime

It is, therefore, my
recommendation that we make a Fantasy-Adventure movie.

Average Vote Score x Amount of Votes per Film for Each Genre

I've picked out the most consistently popular genres: Adventure, Fantasy, Action, Science Fiction, Crime

It is, therefore, my recommendation that we make a Fantasy-Adventure movie.
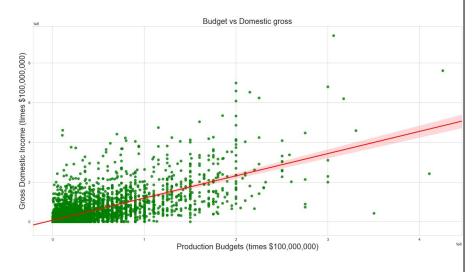
(I'd also release it in the Summer)

INTERLUDE

RECOMMENDED GENRE:

FANTASY – ADVENTURE

And now I'll pass it over to my colleague Trevor Mott

Question 3

How does the production budget correlate with the world wide gross and the domestic gross?
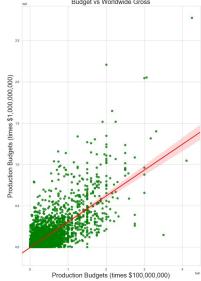
Production Budget vs Domestic Gross

- larger budget correlates with larger gross income

Budget vs Domestic gross

Production Budget vs Worldwide Gross

- strong correlation between Production Budget and WorldWide gross

- better off spending more for greater return on investment

Budget vs Worldwide Gross

Again there is another strong correlation between the production budget and the world wide gross.
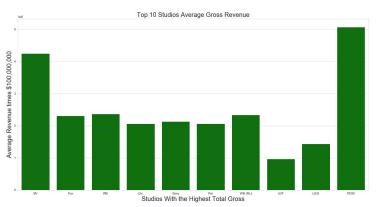
The data shows that you are better off spending more on the movie because the return on investment is better for bigger budget movies.

Question 4

Which production studio has the highest average performance?

Top Ten movie studios

- Top ten movie studios with highest total gross income
- The graph shows highest average gross income per movie.
- Teaming up with either Dreamworks (P/DW)or Buena Vistas (BV)

Top 10 Studios Average Gross Revenue

(bar chart: Average Revenue times $100,000,000 vs Studios With the Highest Total Gross — BV, Fox, WB, Uni, Sony, Par, WB (NL), LGF, LG/S, P/DW)

These are the top ten movie studios based on there total gross income. The graph shows which studios have the highest average gross income per movie. Teaming up with either Dreamworks (P/DW) as the 1st option or Buena Vistas (BV) as the 2nd option will give you the best probability for a higher grossing movie.

To conclude:

Recommended Genre:

Fantasy - Adventure

Recommend production studios:

Dreamworks - Buena Vistas

Recommend budget:

Higher budget gets a better return on investment.

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More time:

With more time now you'd get to see Question 2

Explore the dispersion of different Genres' votes, or split it by budget: Perhaps Horror is brought down by many cheap bad horror films?

Look for a sweet spot in production budget : How much should you spend on a movie?

Use APIs to get more up-to-date data

Thank yous:

-To The Movie DataBase, the Internet Movie Database, Box Office Mojo

-To the person / people who originally gathered the data from these sites

You can find us on Slack

Github repo: https://github.com/Maltanno/Phase1_Project

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