

PRODUCTION

DIRECTOR

CAMERA

# Producing the Hollywood Movies: A Financial Investigation

Elif Yildirim

DATE

Nov/2022

SCENE

Ironhack

TAKE

#1

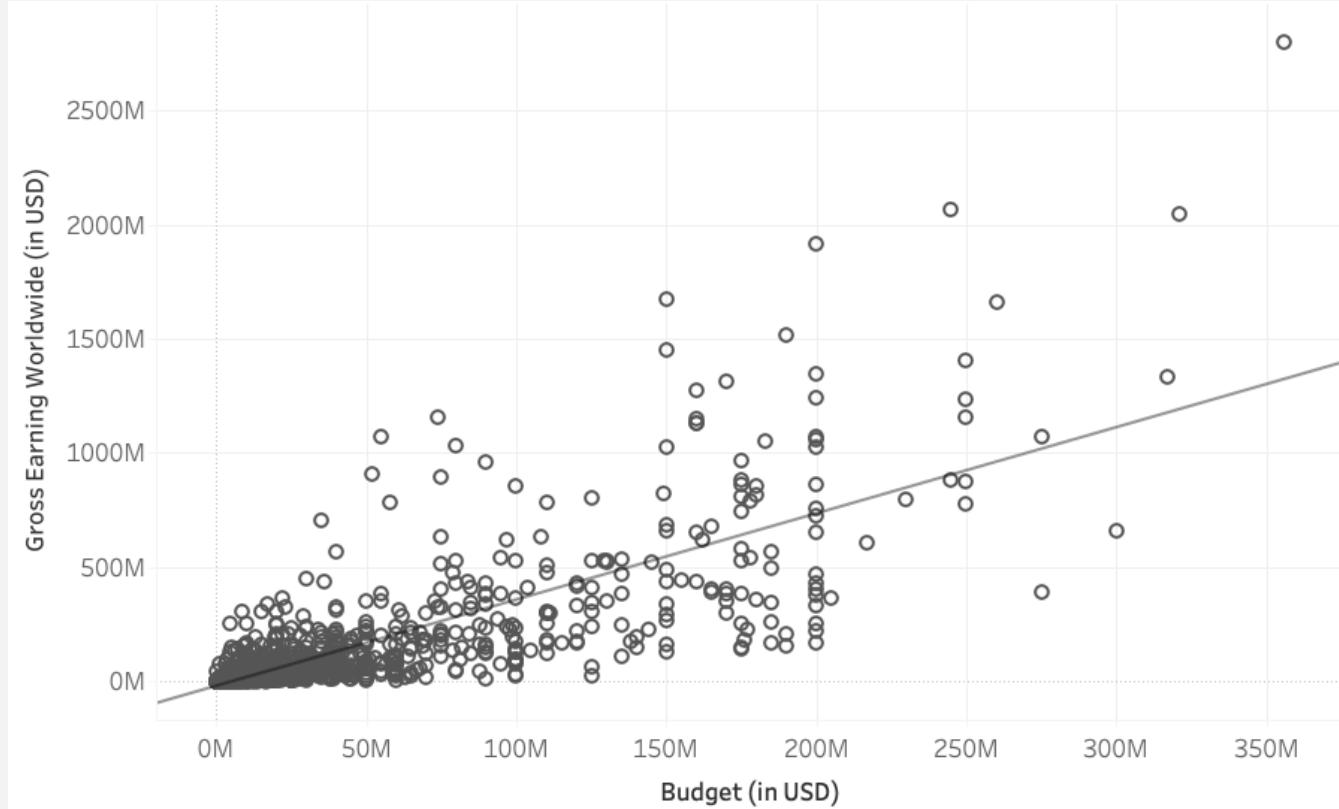
# Question:

- What are the factors determining how much a movie will make?
- Is movie revenue predictable?

# Datasets:

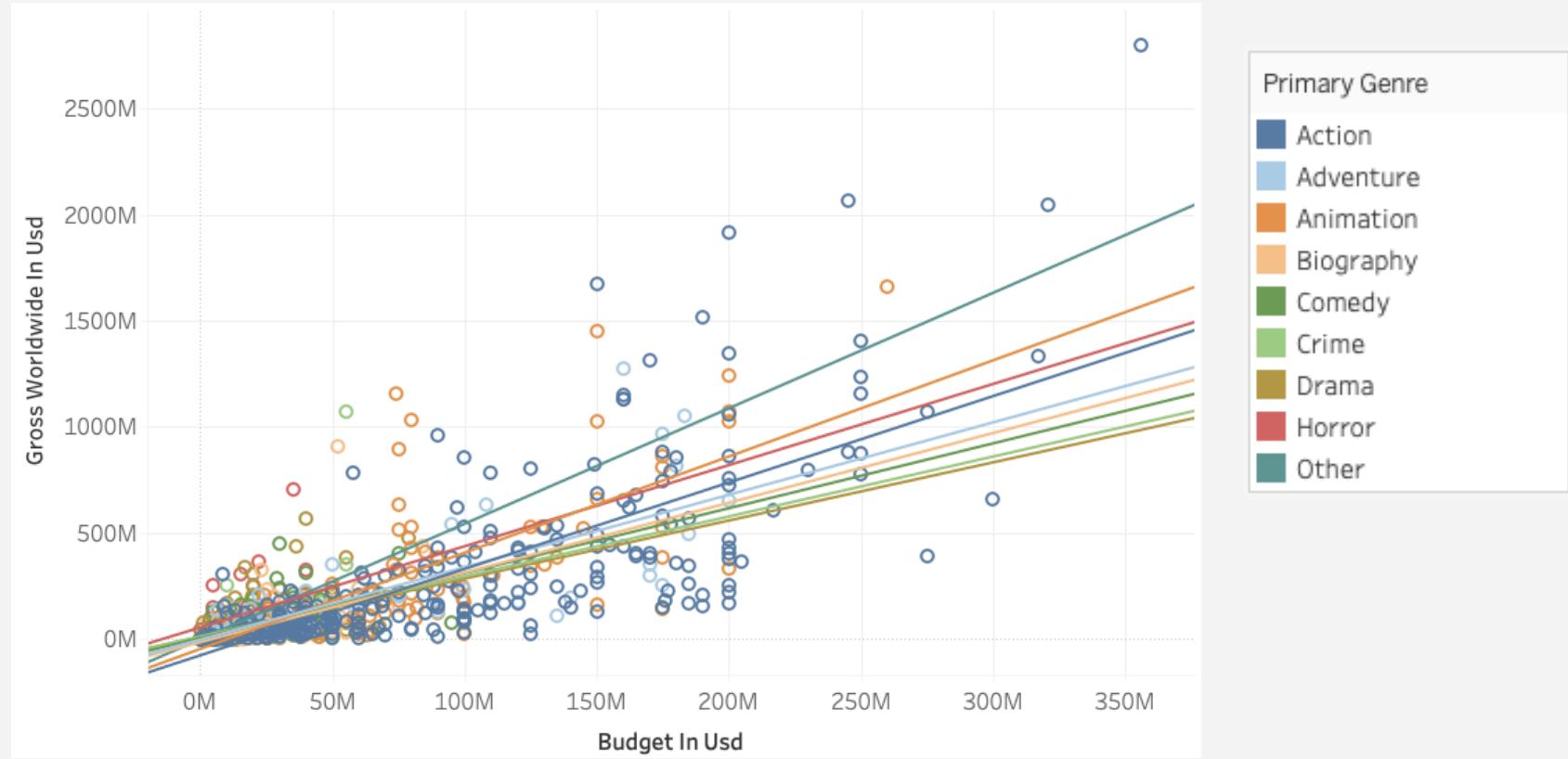
- Movies released in the United States between 2015 and 2022 (scraped from imdb.com)
- Oscars Major Award Nominees & Winners 1928-2021
- Top 1000 movies on imdb.com

# Production Budget vs. Gross Earning



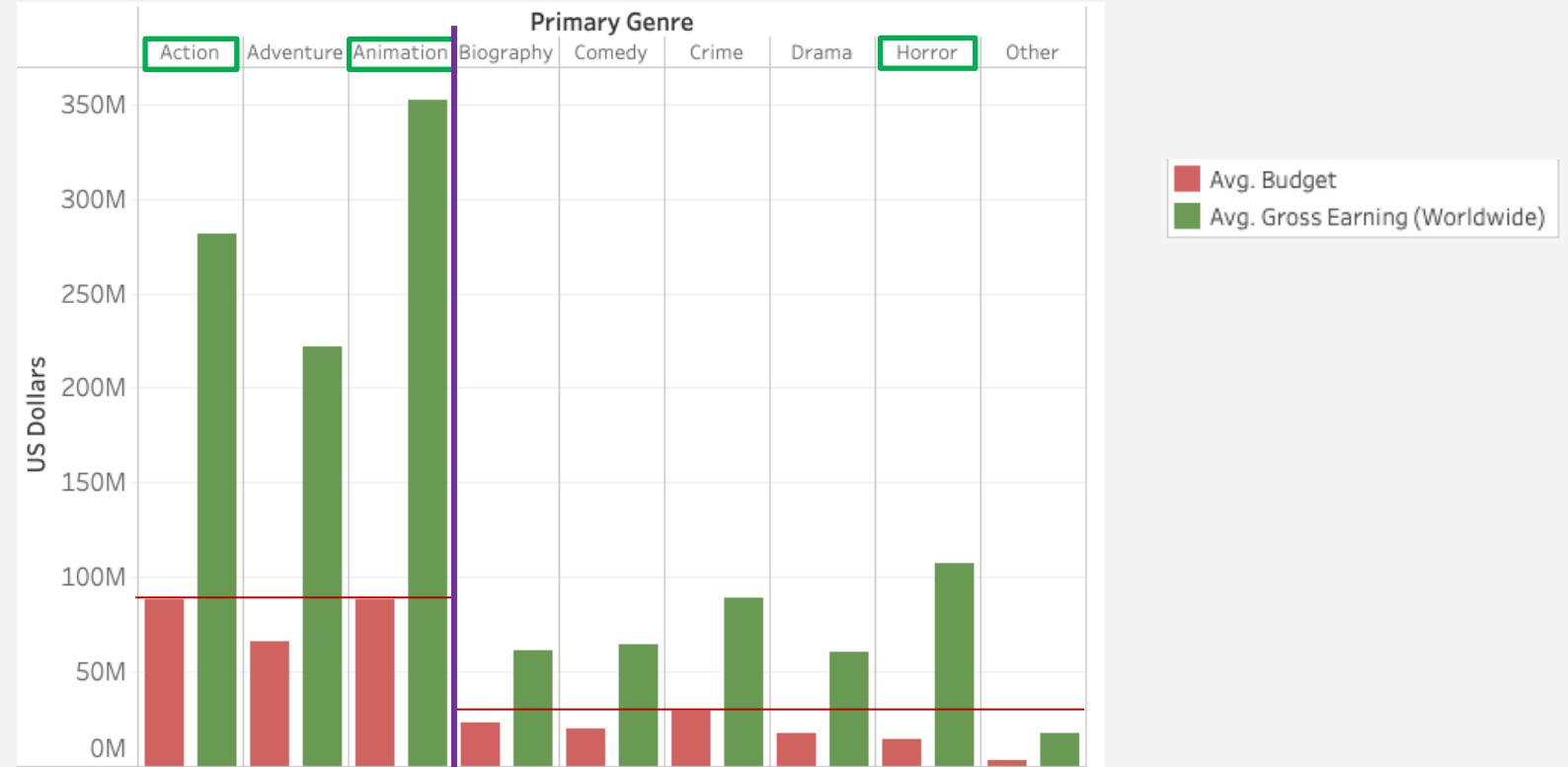
- Budget refers to the cost of making the movie (excluding marketing or expenditures).

# Production Budget vs. Gross Earning



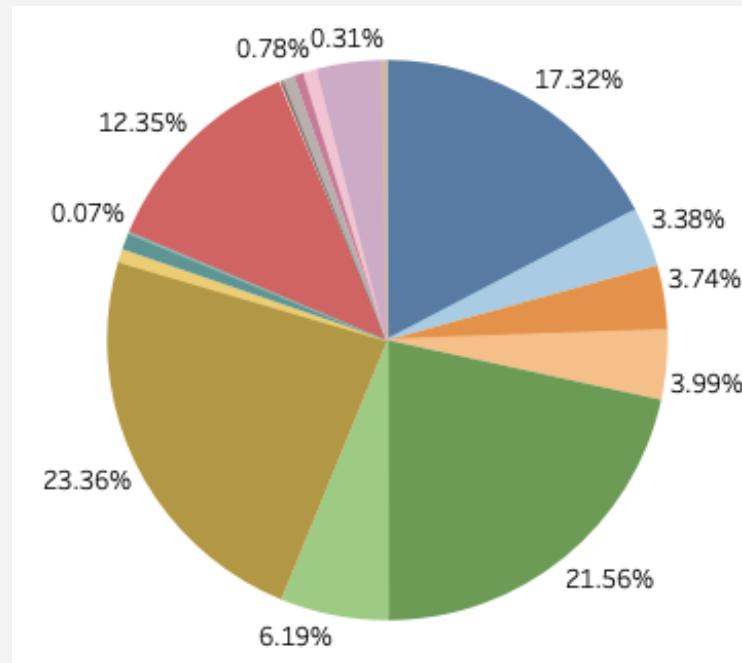
- Animation, horror, and action are the genres that have steeper slopes. The money invested in producing movies in these genres tend to be earned back as multiplied more, in comparison to other genres.

# What determines the production budget?



- Certain genres necessitate more budget on average (and they will bring in higher revenue!)
- The best paying movie genres are
  - ✓ for avg budget below 25 M dollars: **Horror** movies
  - ✓ for avg budget of 75– 90 M dollars: **Animation** movies

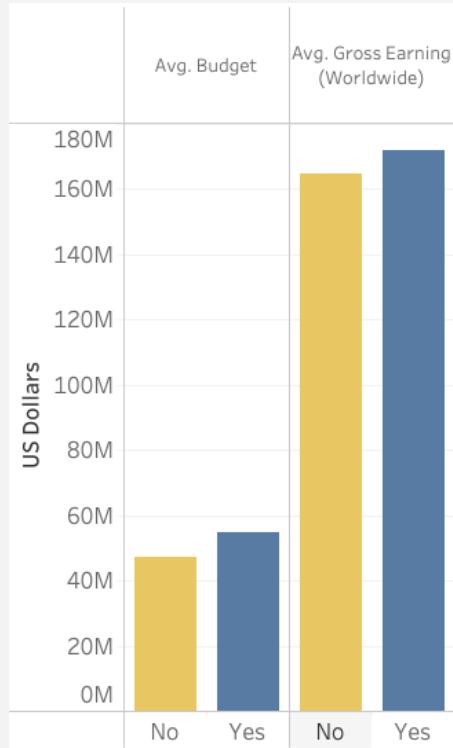
# Which genres dominate the industry?



- Drama movies dominate the industry.
- Comedy, action and horror movies are in the top four.
- Only 3.7 % of all movies released are animation.

# Relationship between the leading star & the finance of a movie

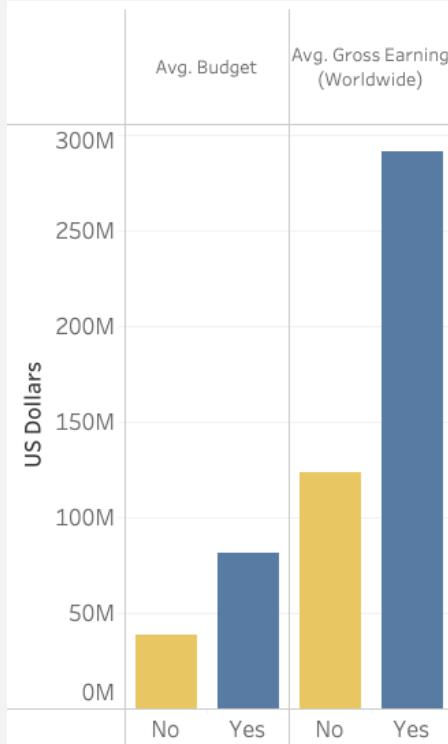
Q: Do any of the leading stars have an Oscar? Yes/No



- Movie revenue is not significantly affected by whether the leading actor/actress in the movie has an academy award or not.
- Data suggests that starring in a leading role in a Hollywood movie already creates a high-value baseline for the actors and actresses, which improves only a little by winning an Oscar.

# Relationship between the director & the finance of a movie

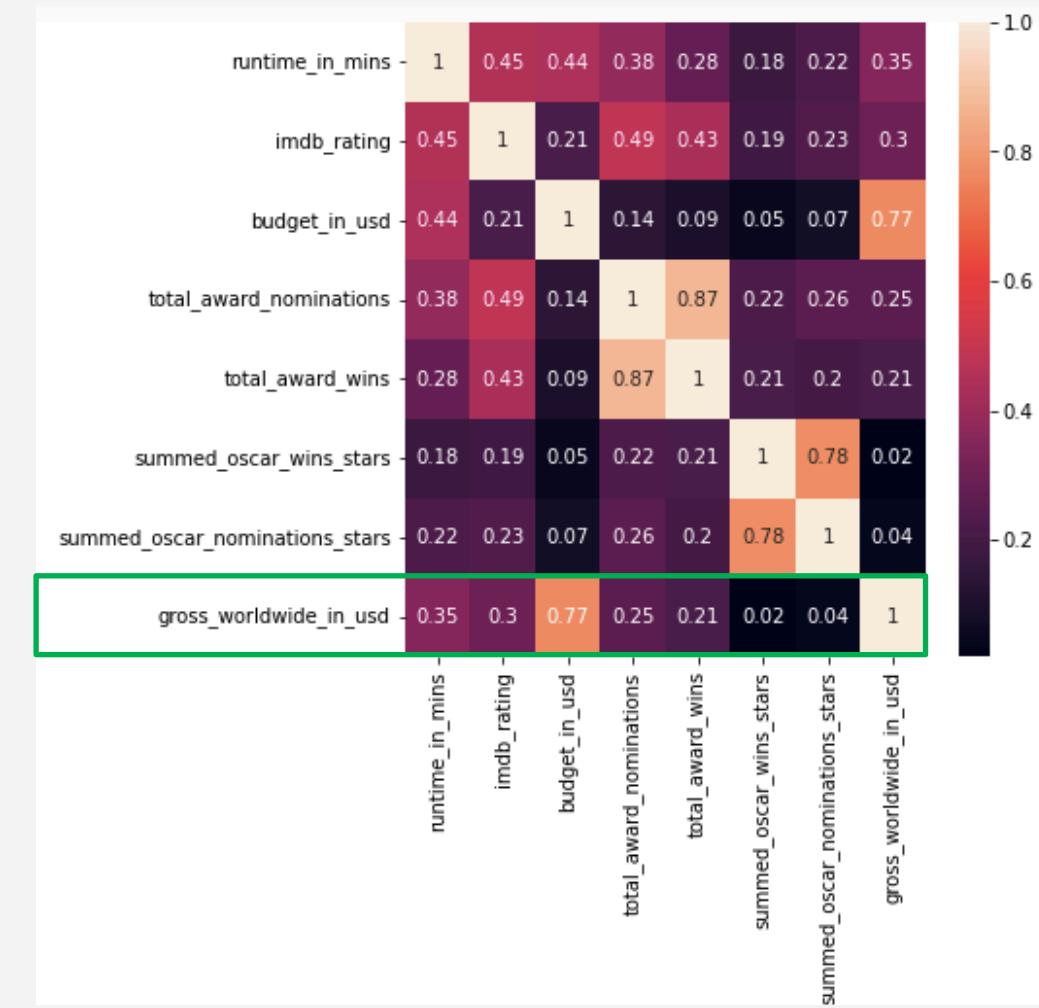
Q: Has the director ever directed a movie that has made it into the IMDB's top 1000 movies?  
Yes/No



- Directors who had directed a movie that made it into IMDB's 'top 1000 movies of all times' list, now tend to direct in more expensive productions.
- Data suggests that directors are one of the essential elements in building the success of a movie.

# Predicting the worldwide gross earning

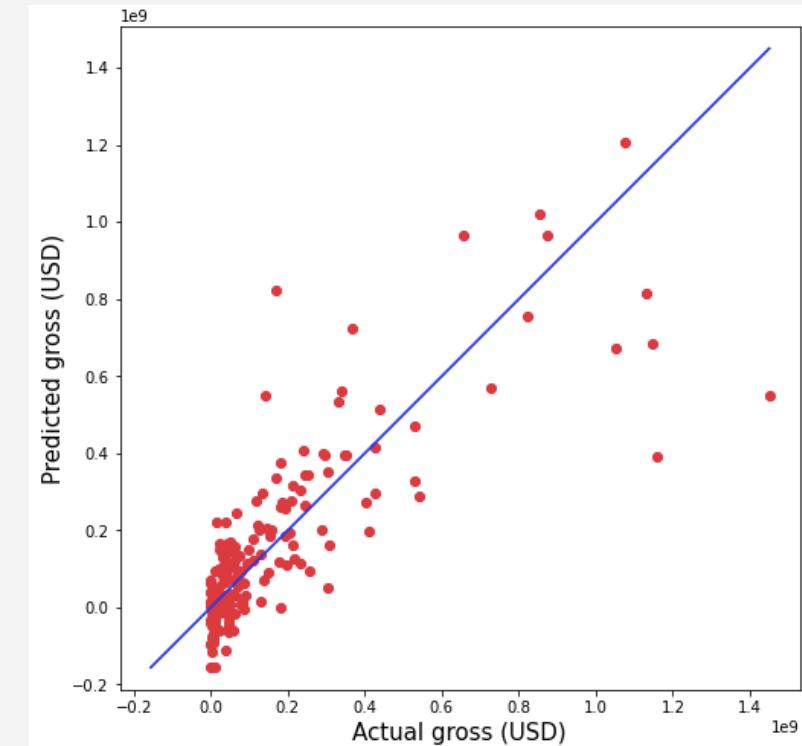
- Correlation of some of the numerical features:



# Predicting the worldwide gross earning

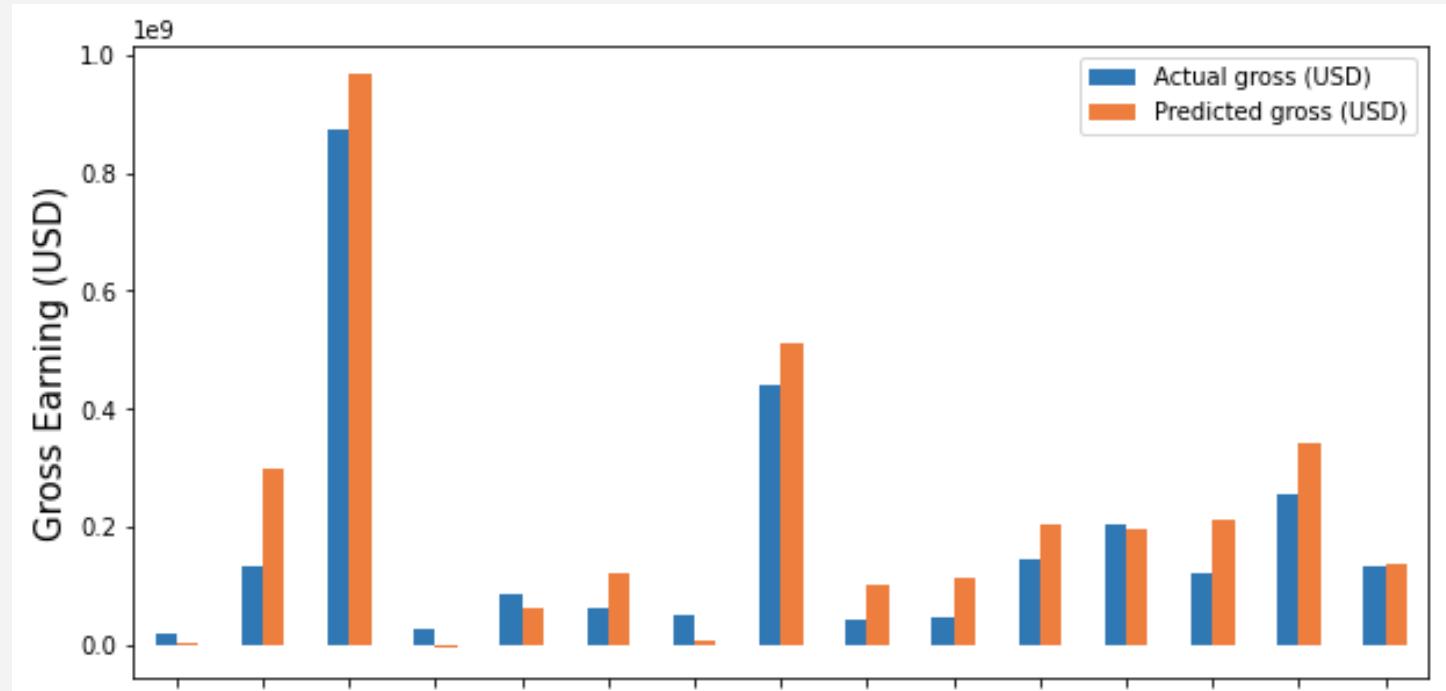
Predicting the gross earning of a movie is possible based on features such as

- Genre
- Budget
- Production company
- Length of the movie
- Whether the movie is nominated for or won awards
- Current Imdb rating/metascore
- Number of critic reviews/user reviews
- Whether it is directed by a director of the top movies
- Release month
- etc.



# Predicting the worldwide gross earning

- Actual vs. Predicted gross earning for 15 random movies



# Conclusions

- Movie revenue strongly correlates with production budget.
- Genre is the primary determinant in the average budget necessary for producing the movie.
- A director with a notably successful career can make significant impact on the success of the movie.
- Choosing the leading actors/actresses based on whether they have an Oscar or not barely makes a difference in the ultimate revenue.
- It is possible to predict how much a movie may earn, which is useful for private investors, sponsors, film studios and entertainment companies that are financing the movies.

# Future work

- Refining the predictive model
- Deploying the model using streamlit



# Thank you!

Do you have any questions?

# References

- [www.imdb.com](http://www.imdb.com) (scraped)
- Oscars dataset downloaded from [www.kaggle.com](http://www.kaggle.com) & enriched with data on [www.awardsdatabase.oscars.org](http://www.awardsdatabase.oscars.org)
- Imdb's top 1000 movies dataset downloaded from [github.com/mrzeynalli](https://github.com/mrzeynalli)
- <https://www.motionpictures.org/wp-content/uploads/2022/03/MPA-2021-THEME-Report-FINAL.pdf>

