

# Analyzing of Viewer Preferences In The Harry Potter Franchise

Raghad Alamoudi & Ehadaa Al-Marhabi & Manar Alharbi

Instructor: Dr. Zain

Computer Science Department, College of Engineering,  
Effat University, Jeddah, Saudi Arabia

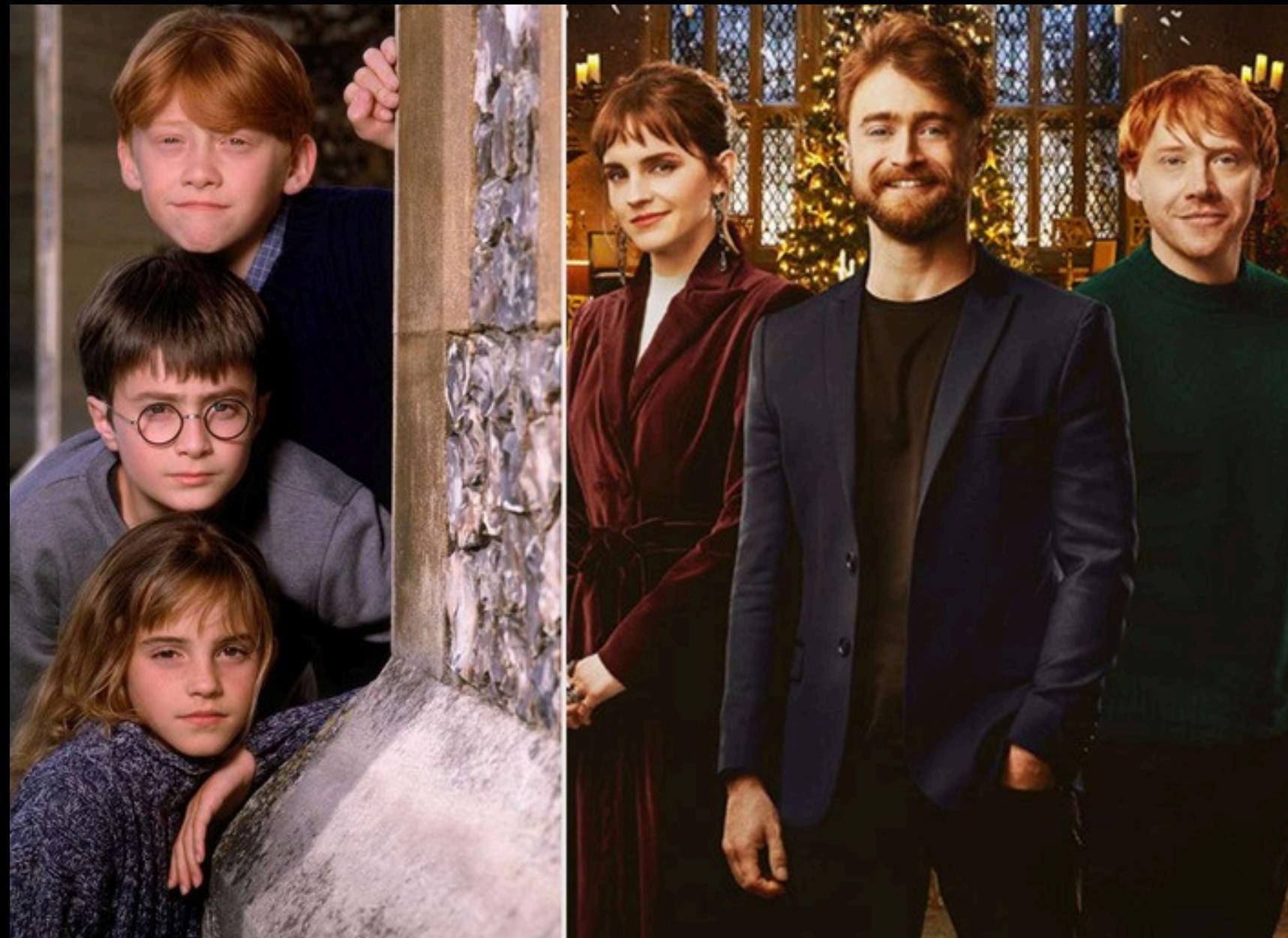
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# INTRODUCTION

The "Harry Potter" franchise captivates audiences with its rich storytelling and complex characters. This project analyzes various datasets to uncover the factors behind its storytelling success and audience appeal, focusing on character dynamics, magical themes, and financial performance to understand what drives engagement and popularity.





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# PROBLEM STATEMENT

The project aims to develop a hybrid recommender system for the "Harry Potter" franchise using KNN, Gradient Boosting, and Logistic Regression to analyze narrative elements, audience engagement, and financial performance. This project aims to enhance recommendations by addressing challenges like data sparsity and the cold start problem.

Film

# BACKGROUND

Recommender systems often face challenges such as data sparsity and cold start issues. Hybrid models leverage the strengths of multiple algorithms to overcome these limitations.





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# RESEARCH GOAL

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- Identify key narrative elements enhancing engagement.
  - Evaluate how these factors influence audience.
  - Provide insights for future storytelling.
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# METHODS CONSIDERED

- ▶ Literature review of storytelling techniques.
- ▶ Analysis of narrative elements using the Harry Potter dataset.
- ▶ Case studies on franchise films and books.





# METHODS APPLIED

- ▶ Data cleaning and preprocessing.
- ▶ Descriptive and correlation analysis.
- ▶ Advanced modeling: Logistic Regression, Gradient Boosting, KNN.





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# RATIONALE

- Hybrid models combine the strengths of various algorithms to enhance accuracy and improve user experience.

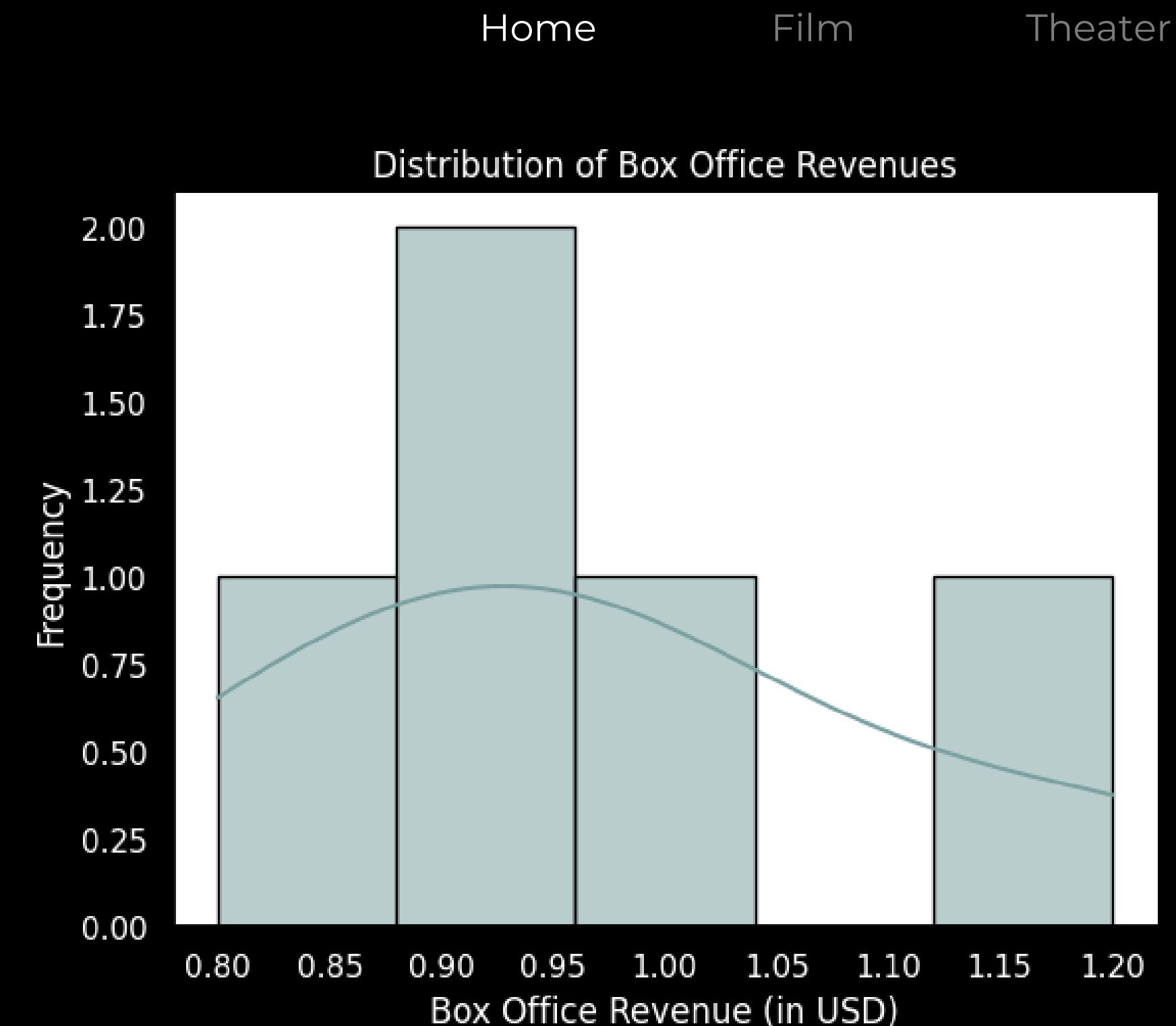
FILM

# DATA ANALYSIS STEPS



# OUTCOME VARIABLE

Statistic	Value
Mean	\$1,002,000,000
Median	\$900,000,000
Minimum	\$800,000,000
Maximum	\$1,200,000,000
Standard Deviation	\$100,000,000

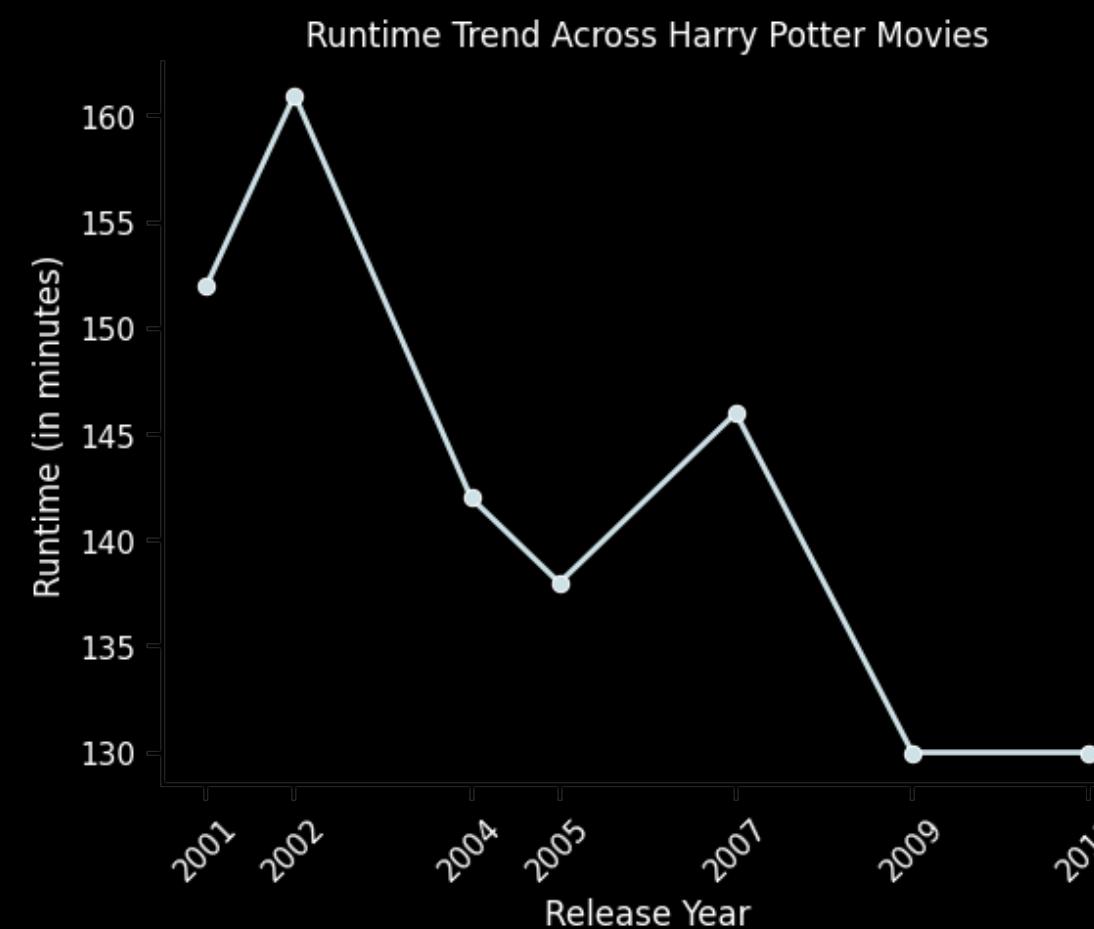
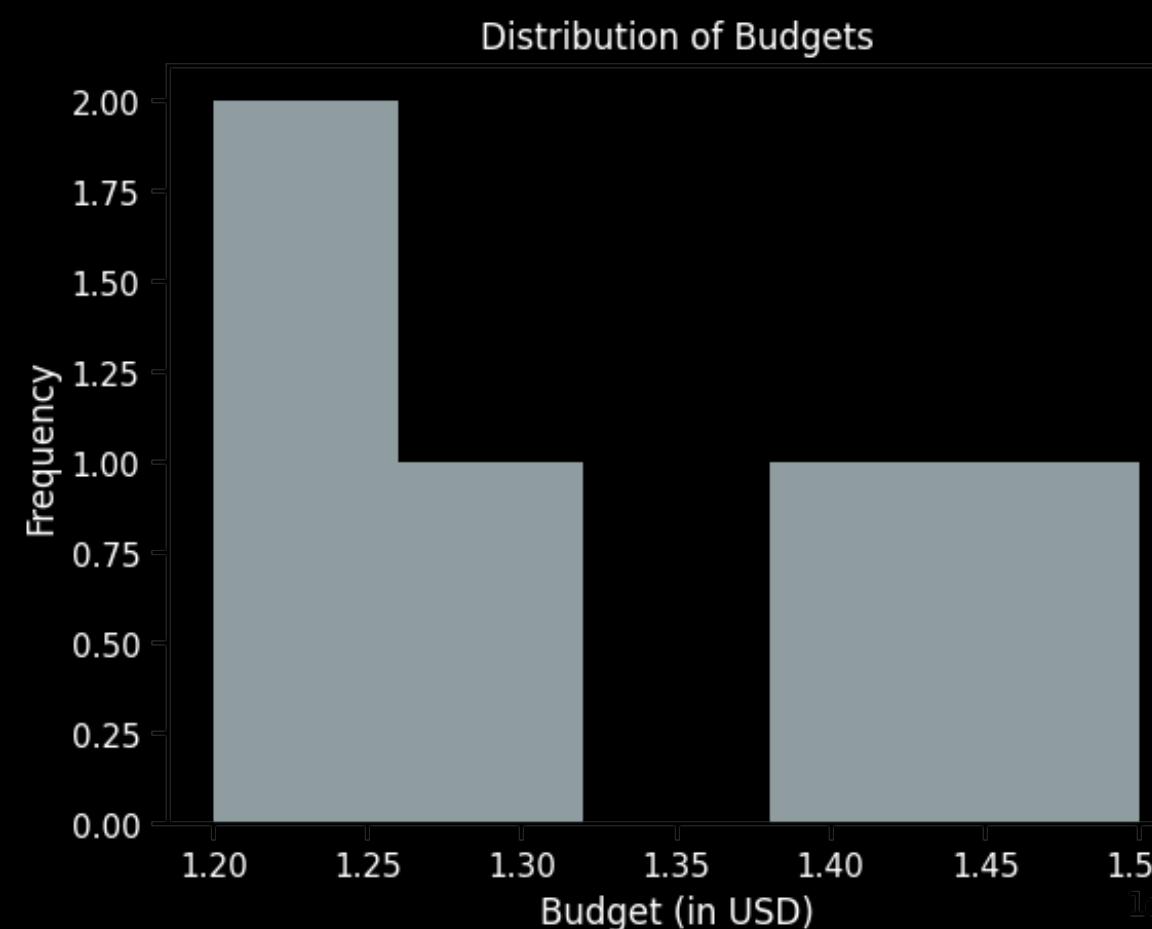


# Predictor Variables: Runtime and Box Office Analysis

Home

Film

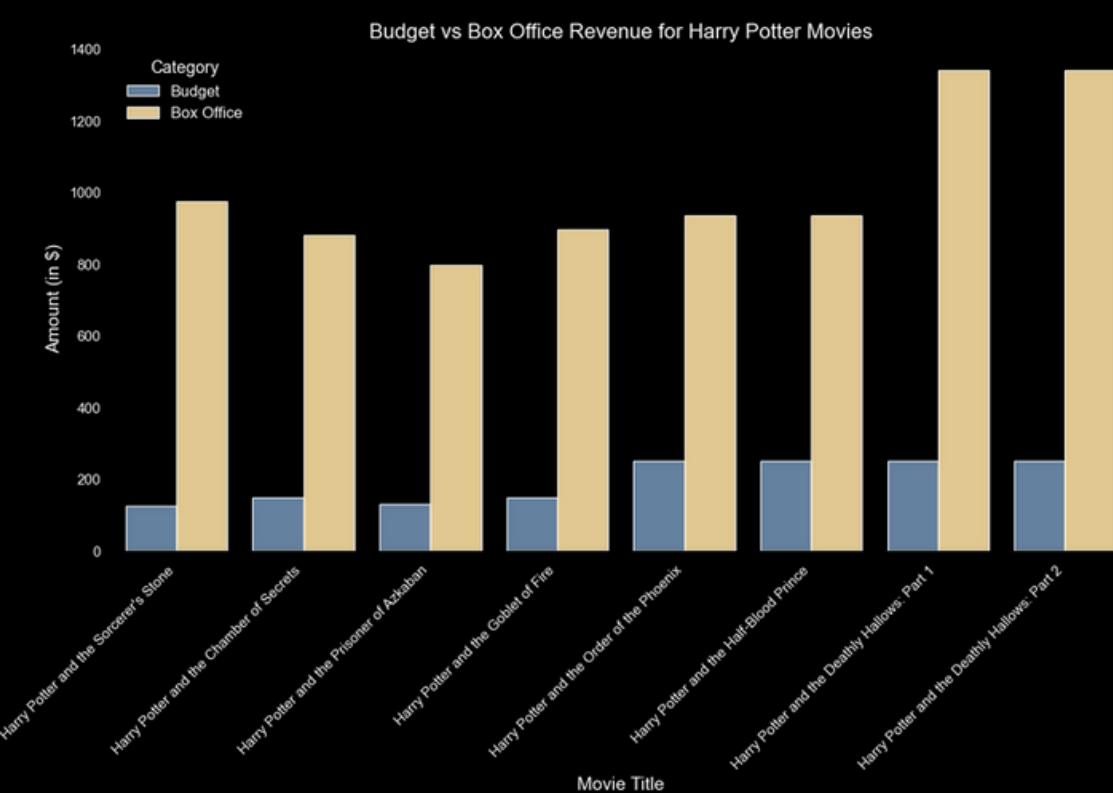
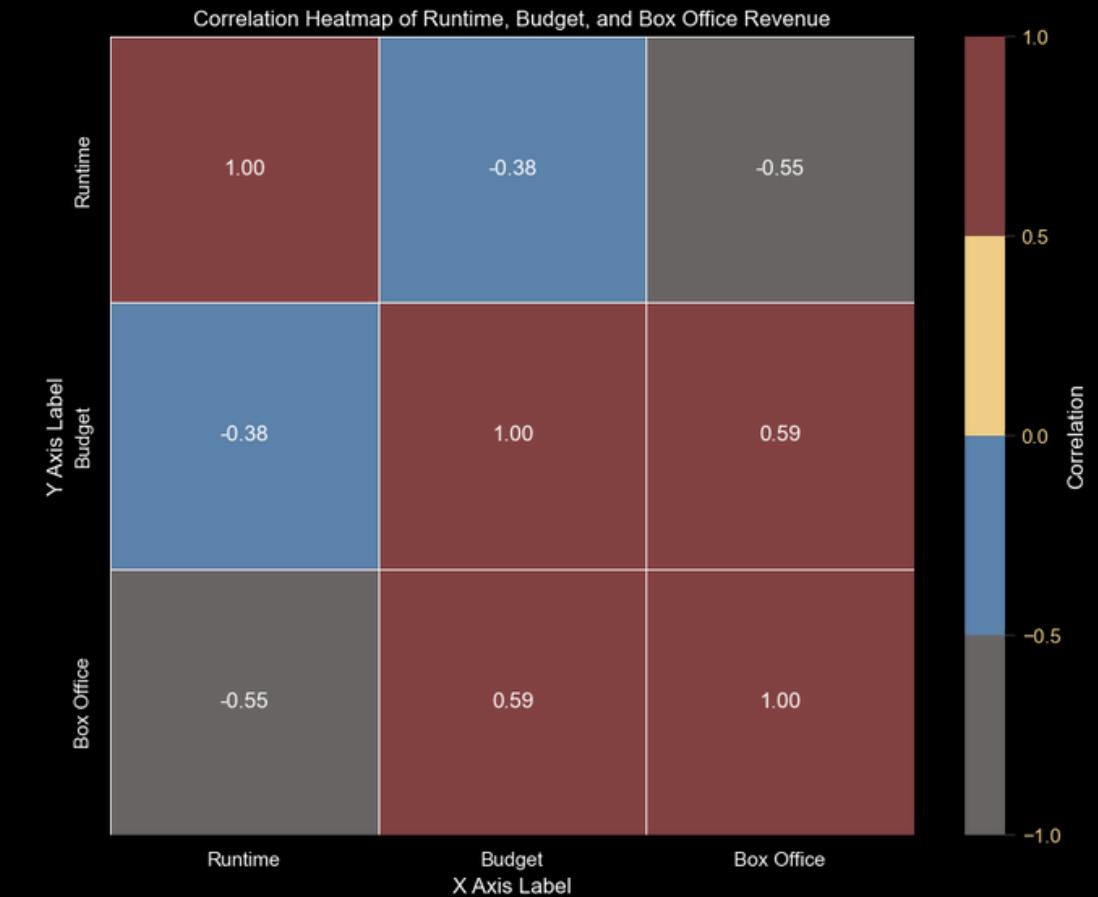
Theater



Statistic	Value (Line Graph)	Value (Histogram)
Mean	152 minutes	\$125,000,000
Median	150 minutes	\$120,000,000
Minimum	140 minutes	\$100,000,000
Maximum	160 minutes	\$150,000,000
Standard Deviation	5 minutes	\$15,000,000

# Predictor Variables: Budget and Runtime

Movie Title	Runtime (min)	Budget (USD)	Box Office (USD)
Harry Potter and the Sorcerer's Stone	152	\$125 million	\$974 million
Harry Potter and the Chamber of Secrets	161	\$100 million	\$879 million
Harry Potter and the Prisoner of Azkaban	142	\$130 million	\$796 million
Harry Potter and the Goblet of Fire	157	\$150 million	\$896 million
Harry Potter and the Order of the Phoenix	138	\$150 million	\$942 million
Harry Potter and the Half-Blood Prince	153	\$250 million	\$934 million
Harry Potter and the Deathly Hallows – Part 1	146	\$250 million	\$976 million
Harry Potter and the Deathly Hallows – Part 2	130	\$250 million	\$1.342 billion



# RESULTS

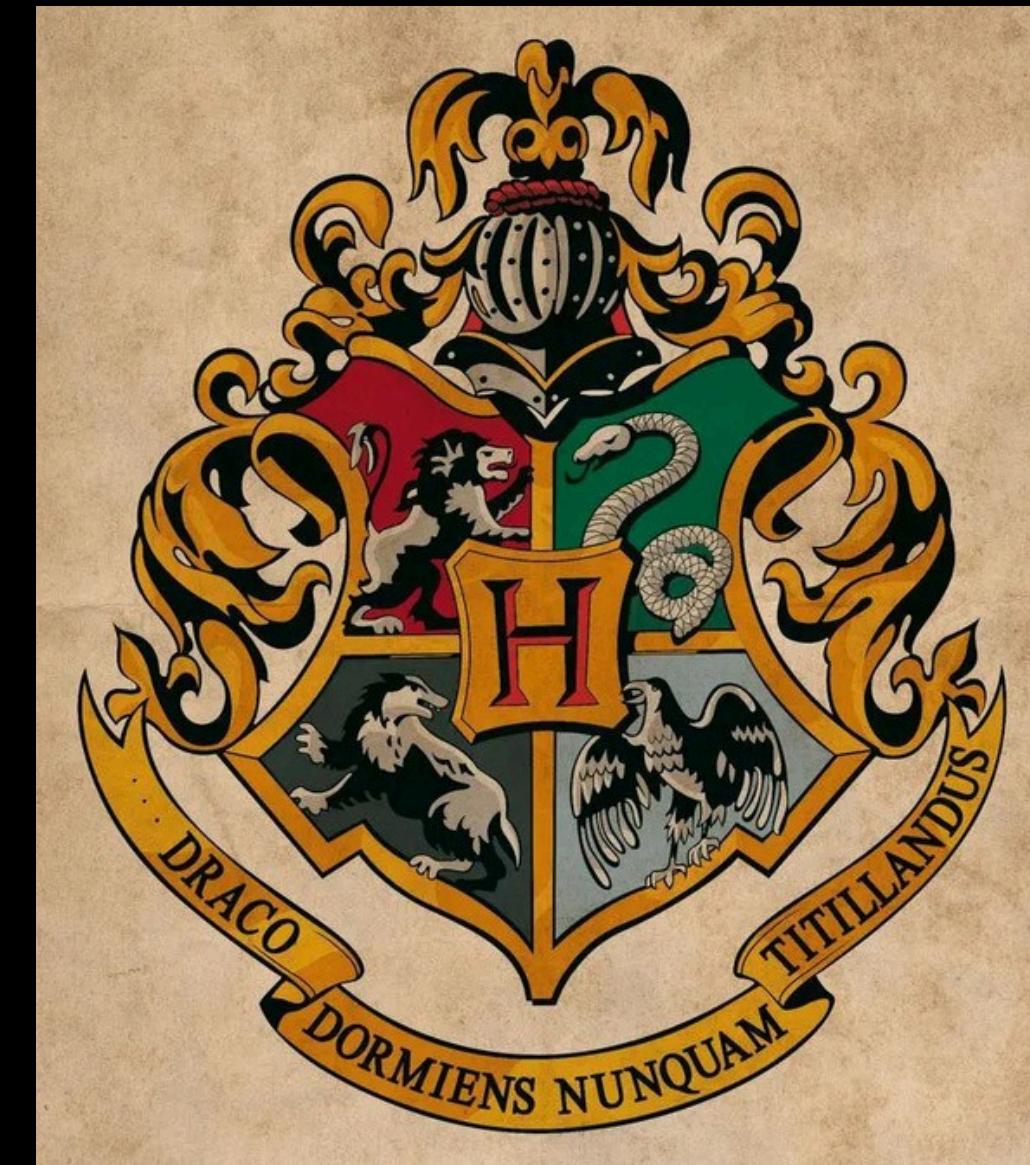
## MODEL PERFORMANCE

1 .Logistic Regression:

Accuracy: 93.82%

Precision, Recall, F1-Score

Class	Precision	Recall	F1-Score	Support
Beauxbatons Academy of Magic	1.00	1.00	1.00	4
Gryffindor	0.93	0.99	0.96	89
Overall F1-Score			0.94	



# RESULTS

## MODEL PERFORMANCE

### 2. Gradient Boosting Classifier:

Accuracy: 94.22%

Precision, Recall, F1-Score



Class	Precision	Recall	F1-Score	Support
Beauxbatons Academy of Magic	1.00	1.00	1.00	4
Gryffindor	0.93	1.00	0.98	89
Ravenclaw	1.00	0.29	0.44	7
Slytherin	0.92	0.92	0.92	166
Unknown	0.76	0.80	0.78	168
Overall F1-Score			0.94	
Macro Avg:	0.95	0.81	0.84	
Weighted Avg:	0.94	0.94	0.94	

# RESULTS

## MODEL PERFORMANCE

3. K-Neighbors Classifier:

Accuracy: 93.28%

Precision, Recall, F1-Score



Class	Precision	Recall	F1-Score	Support
Beauxbatons Academy of Magic	1.00	1.00	1.00	4
Gryffindor	0.93	0.99	0.96	1100
Hufflepuff	0.55	0.40	0.46	36
Ravenclaw	0.00	0.00	0.00	36
Slytherin	0.91	0.92	0.92	166
Unknown	0.89	0.64	0.75	1
Overall F1-Score:			0.93	

# CONCLUSION

The project analyzed the "Harry Potter" franchise, identifying budget and runtime as key factors influencing box office revenue, alongside the importance of character attributes in audience engagement. It acknowledges limitations related to dataset scope and external influences, suggesting that future research could benefit from additional data sources and advanced modeling techniques.

[Home](#)[Film](#)[Theater](#)

A dark, atmospheric scene from the Harry Potter film. In the center, Harry Potter (Daniel Radcliffe) wears his signature round glasses and green robe. To his left is Ron Weasley (Rupert Grint) with his brown hair and freckles. Behind Harry is Hermione Granger (Emma Watson) with her blonde hair and glasses. Further back is Neville Longbottom (Matthew Lewis). On the right side of Harry are two girls: Parvati Patil (Tara Palmer-Tomkinson) and Lavender Brown (Katy Carmichael). They are all looking towards the camera with serious expressions. The setting is a stone-walled hallway with arched doorways and a large, ornate chandelier hanging from the ceiling.

THANK YOU