

# DESIGNING THEATER SHOWING SCHEDULES PROJECT PROPOSAL

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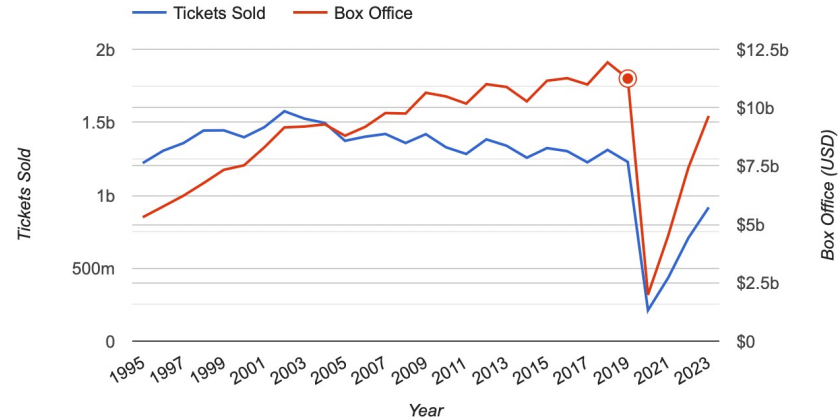
# OUR QUESTION

HOW SHOULD A MOVIE  
THEATER COMPANY  
DECIDE THE SHOWING  
SCHEDULE FOR ITS  
THEATERS?



# WHY IT MATTERS

Annual Ticket Sales



**Note:** Figures for 2023 are at an annualized rate (both in the graph above and the table below). The Box Office Totals in the graph above are *not* adjusted for inflation.

# REMINDER: OUR QUESTION

HOW SHOULD A MOVIE  
THEATER COMPANY  
DECIDE THE SHOWING  
SCHEDULE FOR ITS  
THEATERS?

→ MODEL TO PREDICT  
PROFITABILITY METRIC USING  
PREDICTED REVENUE + OTHER  
FACTORS



# WHERE TO EXTRACT OUR DATASET?

## IMDb (Internet Movie Database)

Large, enormously popular, well-known database

Non-commercial API does not include financial data

Approval process means likely fewer errors in data

## TMDB (The Movie Database)

Smaller, lesser-known, user-editable database

Well-documented, free API; includes financial data

Community-run database, so will require careful cleaning for errors



# DATA EXPLANATION (SAMPLE DATASET)



## BUDGET

**Budget** is an estimate of production budget (marketing not included)

A

## REVENUE

TMDB **Revenue** is a measure of *worldwide* box office revenue

B

1919-2017

# EXPECTED RELEVANT FEATURES



## – CAST –

– **A-List Actors** may greatly affect who sees a movie

## – BUDGET & REVENUE –

– **Up to \$380 Million**

– **Up to \$2.78 Billion**

## – GENRE & COUNTRY –

– **Domestic vs. Intl.** affects B&R

– **Genre popularity** varies



# CREATING OUR PREDICTION MODEL

GENRE



?

CAST



?

BUDGET



?

REVENUE



?



# POTENTIAL IMPACT



# SOURCES

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