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Computing Vision –Striving for Success

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MAKING AN IMPACT THAT MATTERS since 1845

Computing Vision

The Vision

- The Client, “Computing Vision”
- Wants to expand their offerings

Movie Industry

- CV sees the potential growth in the film industry.
- Unclear on their goals

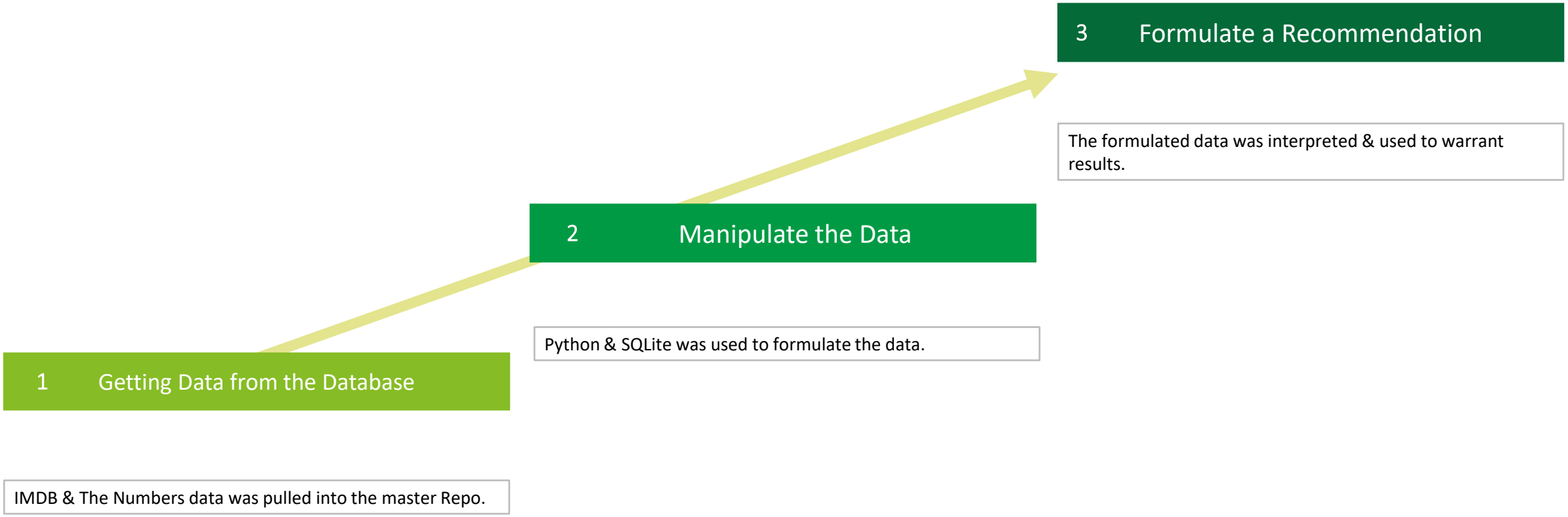
Our Goal

- Provide 3 data backed business recommendations

How?

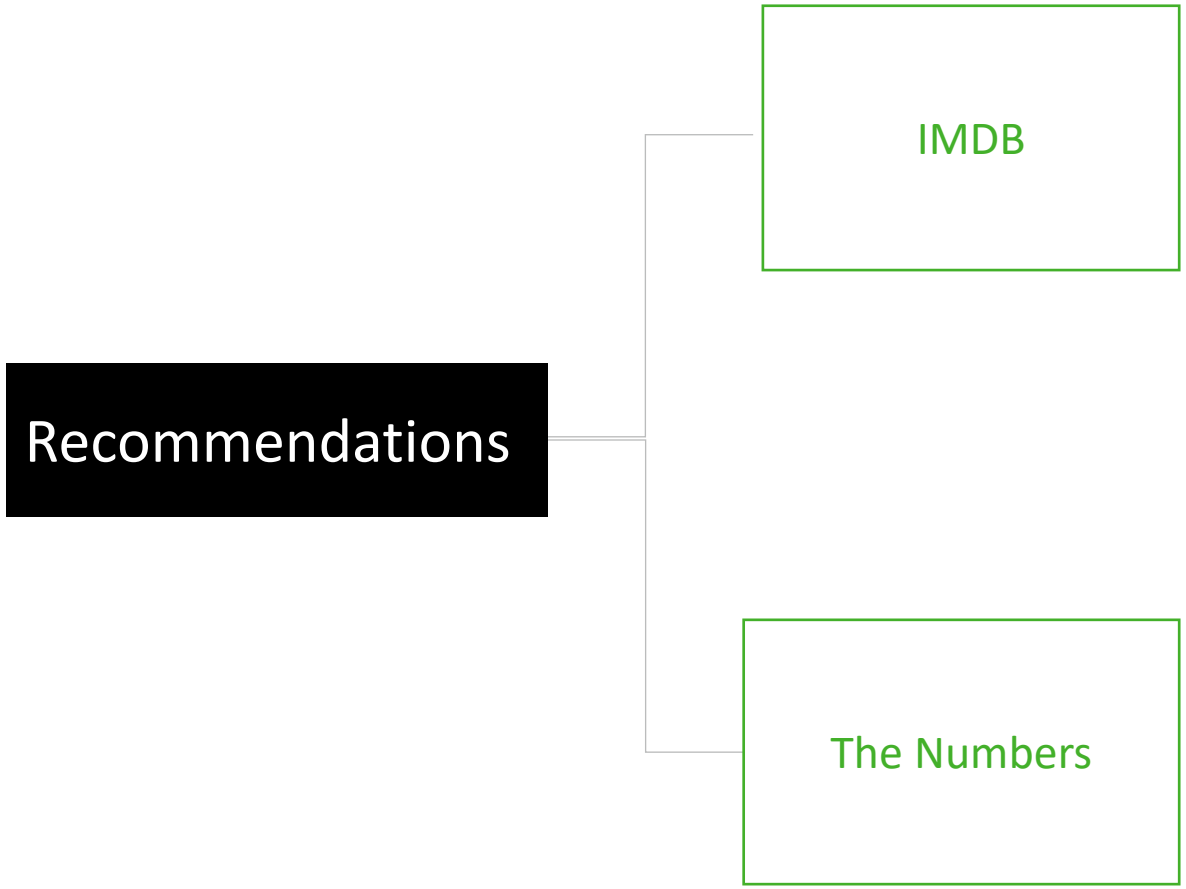
- Gather relevant data sets pertaining to film industry
- Analyze data and look for

How the Data Was Utilized:



Data & Methods Leveraged:

Data was utilized from several different sources to provide CV with the most reliable recommendations possible



IMDB is a premier online film database. It is well known as the world's most popular authoritative source when it comes to anything film related.

Key Info:

- To properly assess & manipulate this data the team utilized Python Data Analysis, Pandas, and Primarily SQLite.
- Focus on the Average Rating
- IMDB Data was leveraged in the statistical hypothesis testing
- This data was used for Recommendations 2 & 3

The Numbers is a website that provides detailed financial analysis about movies & films.

Key Info:

- To properly assess & manipulate this data the team utilized Python Data Analysis and Pandas.
- This data was used for Recommendation 1.

Insights into the Data:

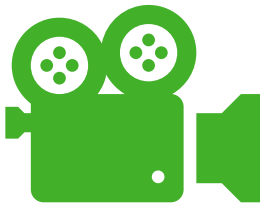
Data from IMDB was only used if the film had more than 3500 Votes & was from the US Region

Data was filtered to focus within the last 10 Years as the industry is rapidly changing

Genres that had a miniscule number of films created were removed as they skewed the data

Ex: News was highly rated, however, there were very few actual news films.

Our Three Recommendations:



CV should release their film in May

1

CV should release a Documentary

2

CV should release a Documentary that has a runtime that is longer than 100 min.

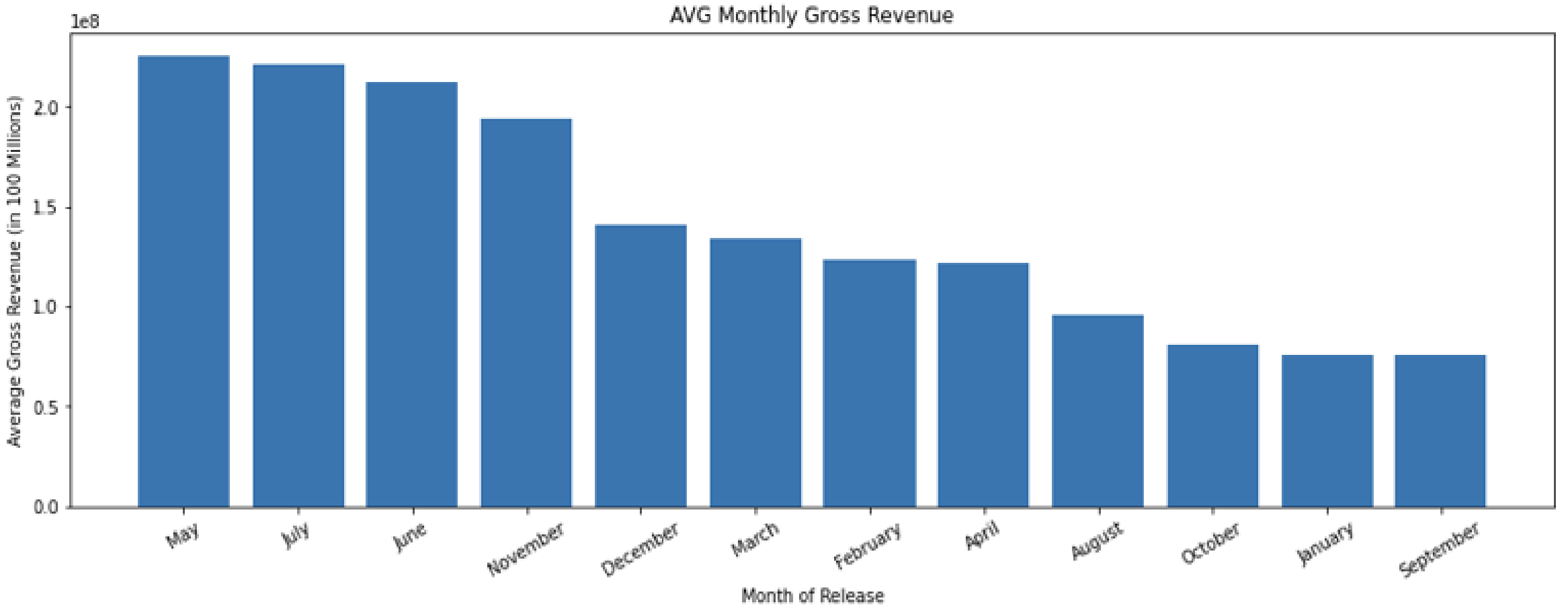
3

CV Should Release their First Film in May.

Average World Wide Gross Income by Month (2012-2022)

This chart represents the average gross income for each month over the last 10 years.

Avg. Gross Income by Month from 2012-2022



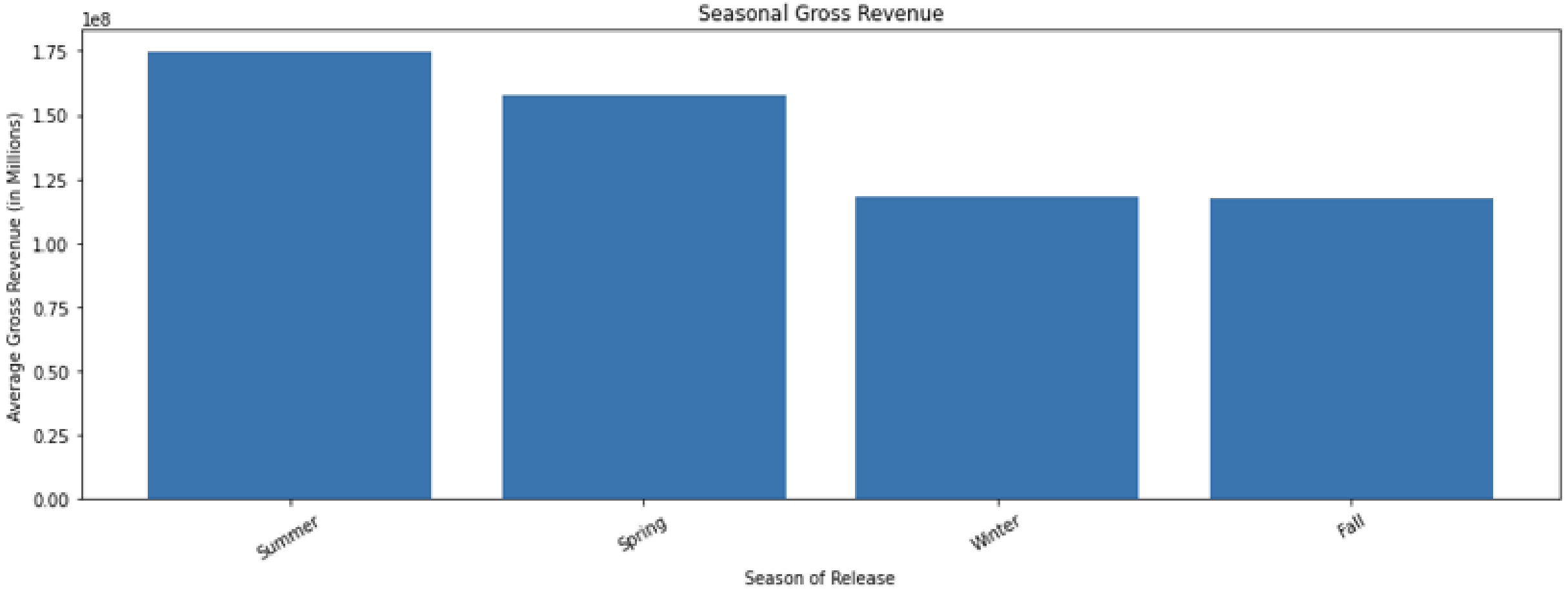
Taking it a step further…

After looking at just the month, we also performed further analysis looking at the most profitable seasons for films.

Average World Wide Gross Income by Season (2012-2022)

This chart represents the average gross income for each month over the last 10 years.

Avg. Gross Income by Season from 2012-2022

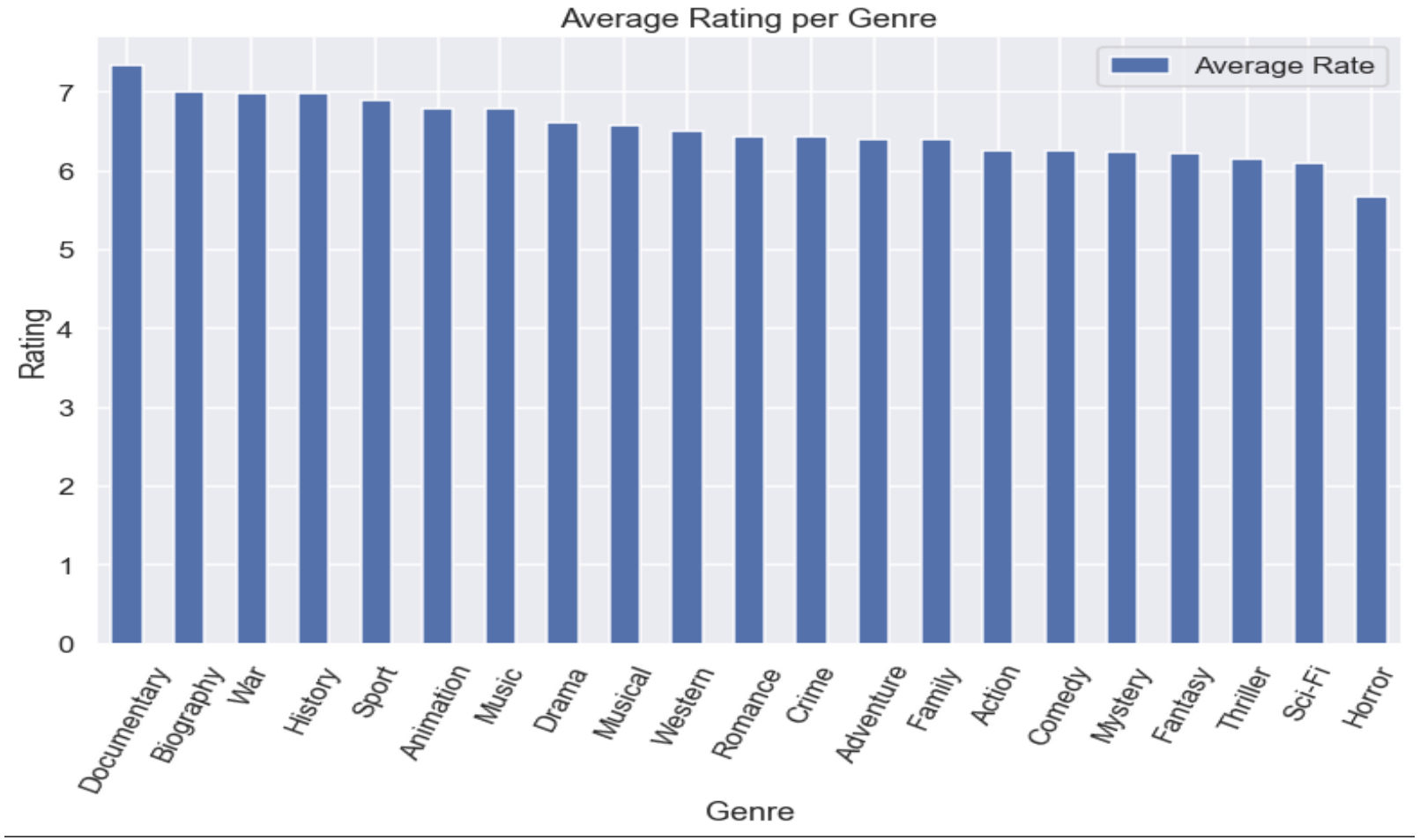


CV should release a Documentary.

Average Rating by Genre (2012-2022)

This chart represents the average Rating by genre over the last 10 years.

Avg. Rating per Genre from 2012-2022



CV should release their Documentary with a runtime >= 100 Minutes.

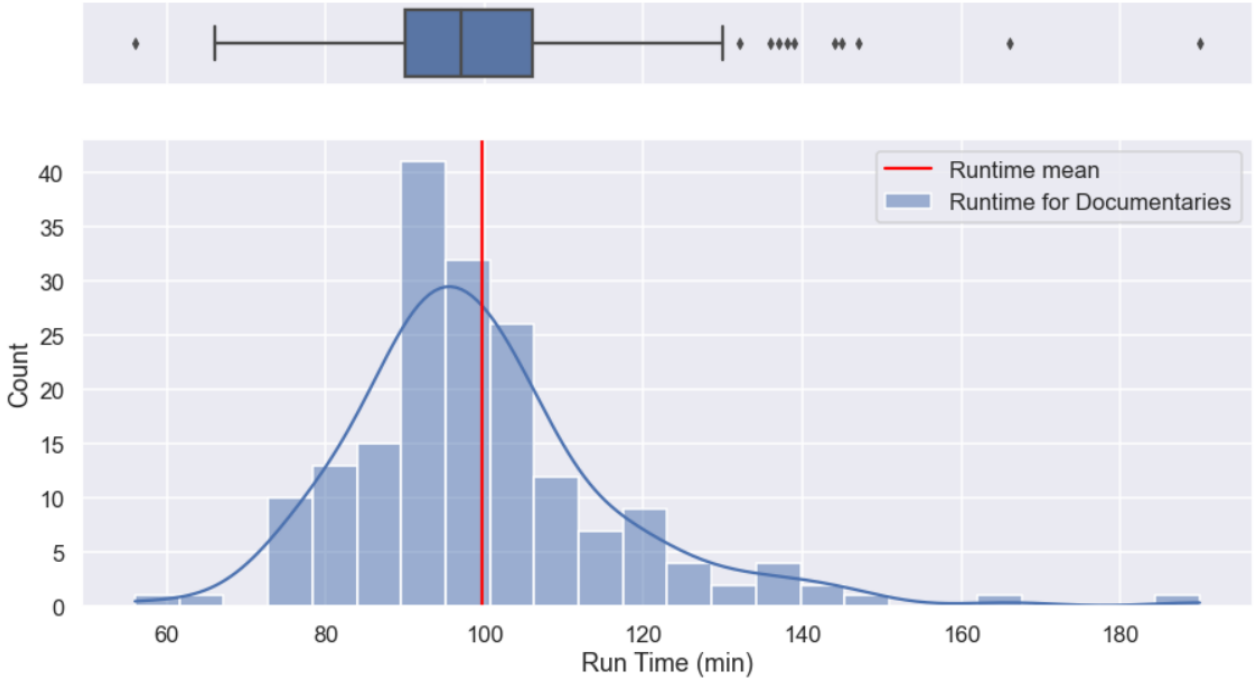
Statistical Analysis: one-sided, one-sample t-test

Statistics	Population (All Documentary Films)	Sample (Documentaries with a rating less than 7.34)
Mean:	99.65 Minutes	95.95 Minutes
Standard Deviation:	17.41 Minutes	13.24 Minutes

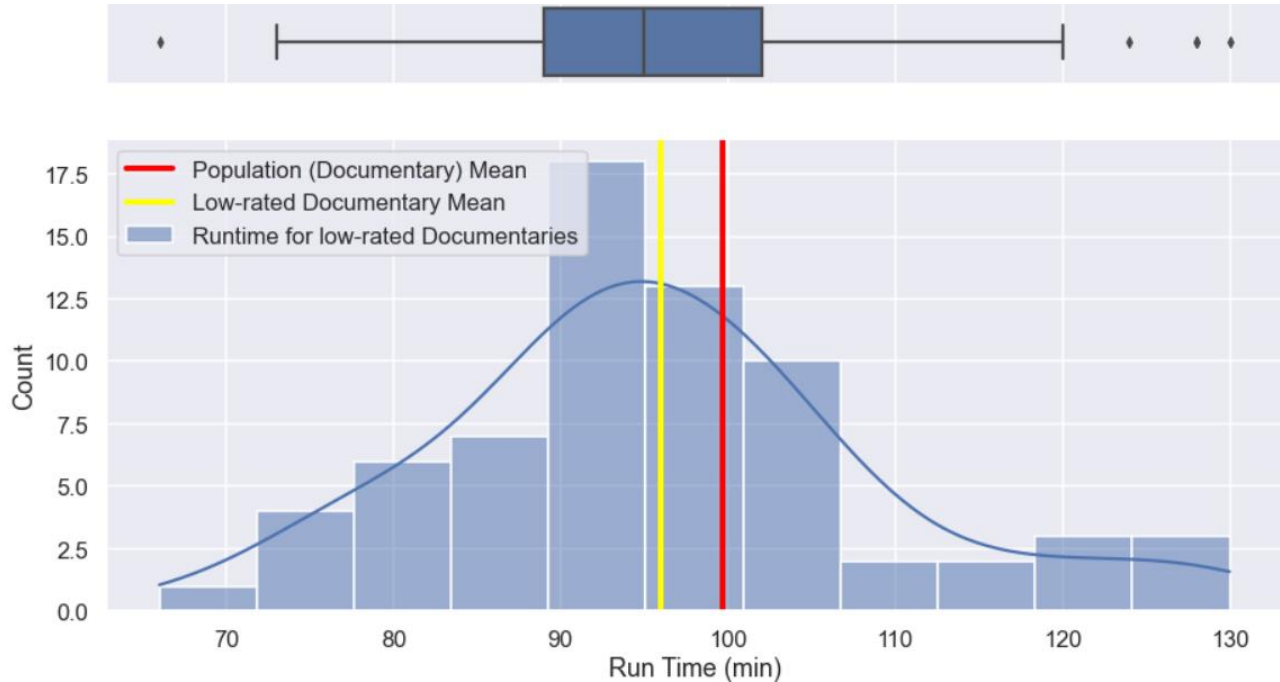
H0: **Null Hypothesis:** $\bar{x} = \mu$

HA: **Alternative Hypothesis:** $\bar{x} < \mu$

Histogram of Documentary Runtime (Population):



Histogram of Documentary Run Time for Low Rated Documentaries (Rating <= 7.4)



What this Means:

- **There is a statistically significant decrease in rating performance for documentaries with shorter run times.**
  - We can reject our Null Hypothesis

H0:

Null H: $\bar{x} = \mu$

HA:

Alternative Hypothesis: $\bar{x} < \mu$

Summary of Keys to CV Success:

Films released in May bring in the largest amount of revenue.

Documentary Films are the Highest Rated.

Documentary Films with a runtime >= 100 Minutes will perform the best.