Microsoft Studios:
Analytics and Business Insights

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Outline:

- Business Problem

- Project Goals

- Data: source and descriptive statistics

- Methods

- Visualizations

- Outcomes

- Recommendations

Business Problem

Microsoft intends to add a movie studio division to its business portfolio. In doing so it needs insights into how it can maximize profit and minimize cost within this new division of its rather large company.

Project Goal:
To Answer These Three Questions

- 1) Which months are ideal for film release dates in order to achieve the highest ROI?

- 2) Is there an ideal film length or range of film lengths in order to achieve the highest ROI?

- 3) Which film genres are amongst the highest earners (ROI)?

Data Sources

- https://www.imdb.com (IMDB = Internet Movie Database)

- https://www.the-numbers.com

Descriptive Statistics: ROI

count	1798.000000
mean	236.674994
std	1135.637760
min	-100.000000
25%	-71.100244
50%	71.307498
75%	263.051658
max	41556.474000

Descriptive Statistics: Months

count	1798
unique	12
top	Dec
freq	211

Descriptive Statistics: Runtime

count	114405.000000
mean	86.187247
std	166.360590
min	1.000000
25%	70.000000
50%	87.000000
75%	99.000000
max	51420.000000

Descriptive Statistics: Genres

count	140736
unique	1085
top	Documentary
freq	32185

Methods:

- Return on Investment (ROI) = ((gross profit - production cost)/ production cost) x 100
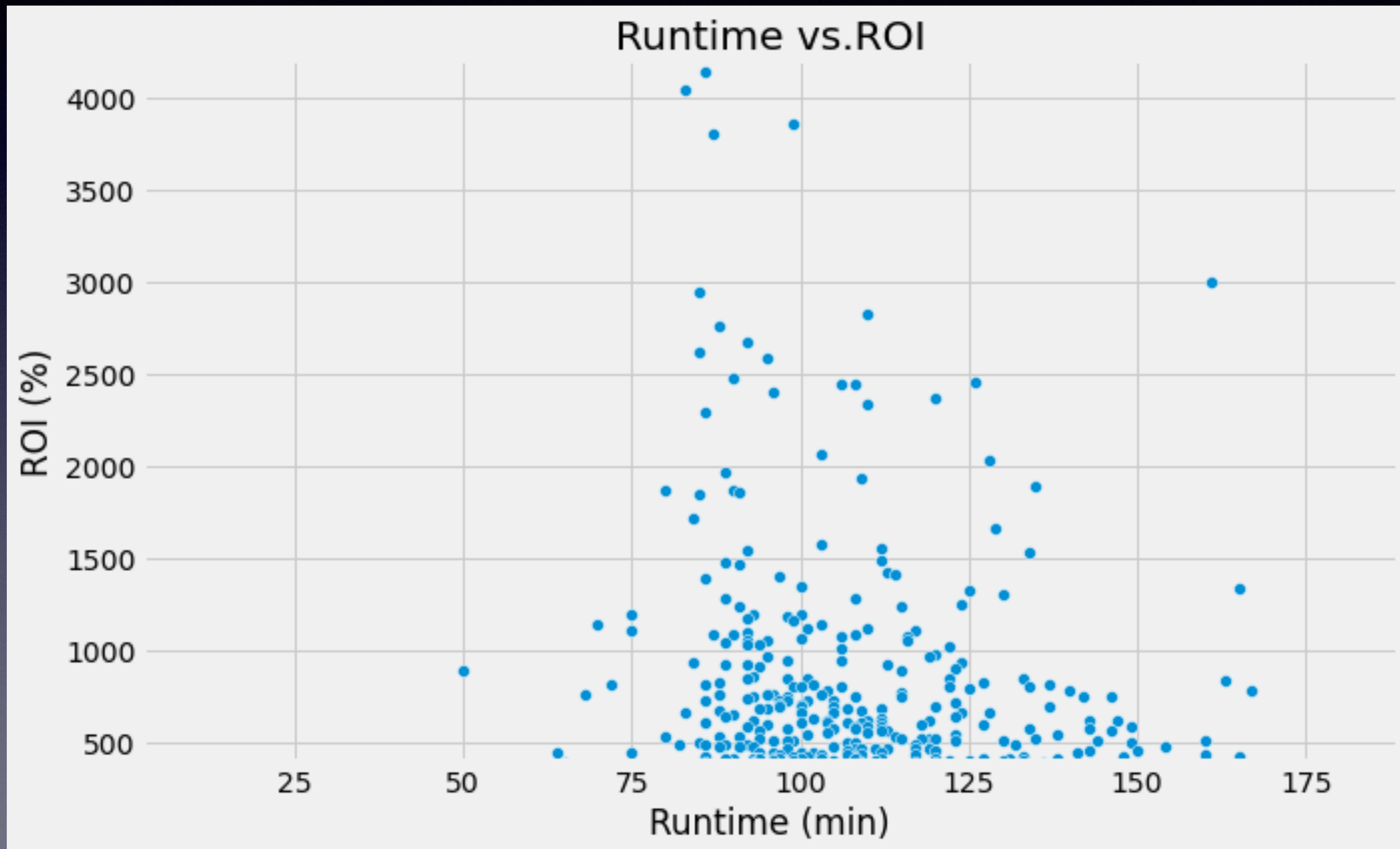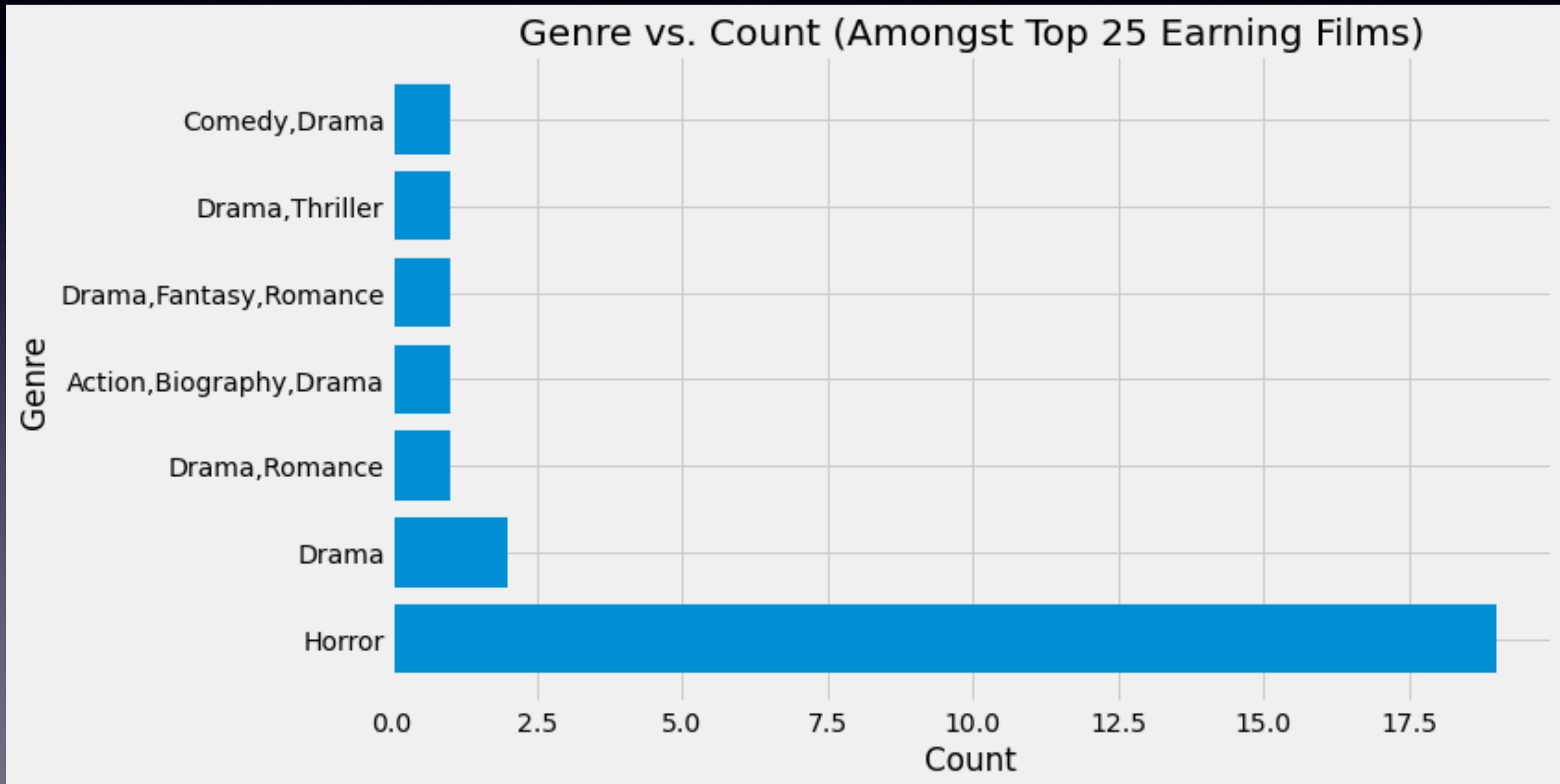
Release Month vs. ROI
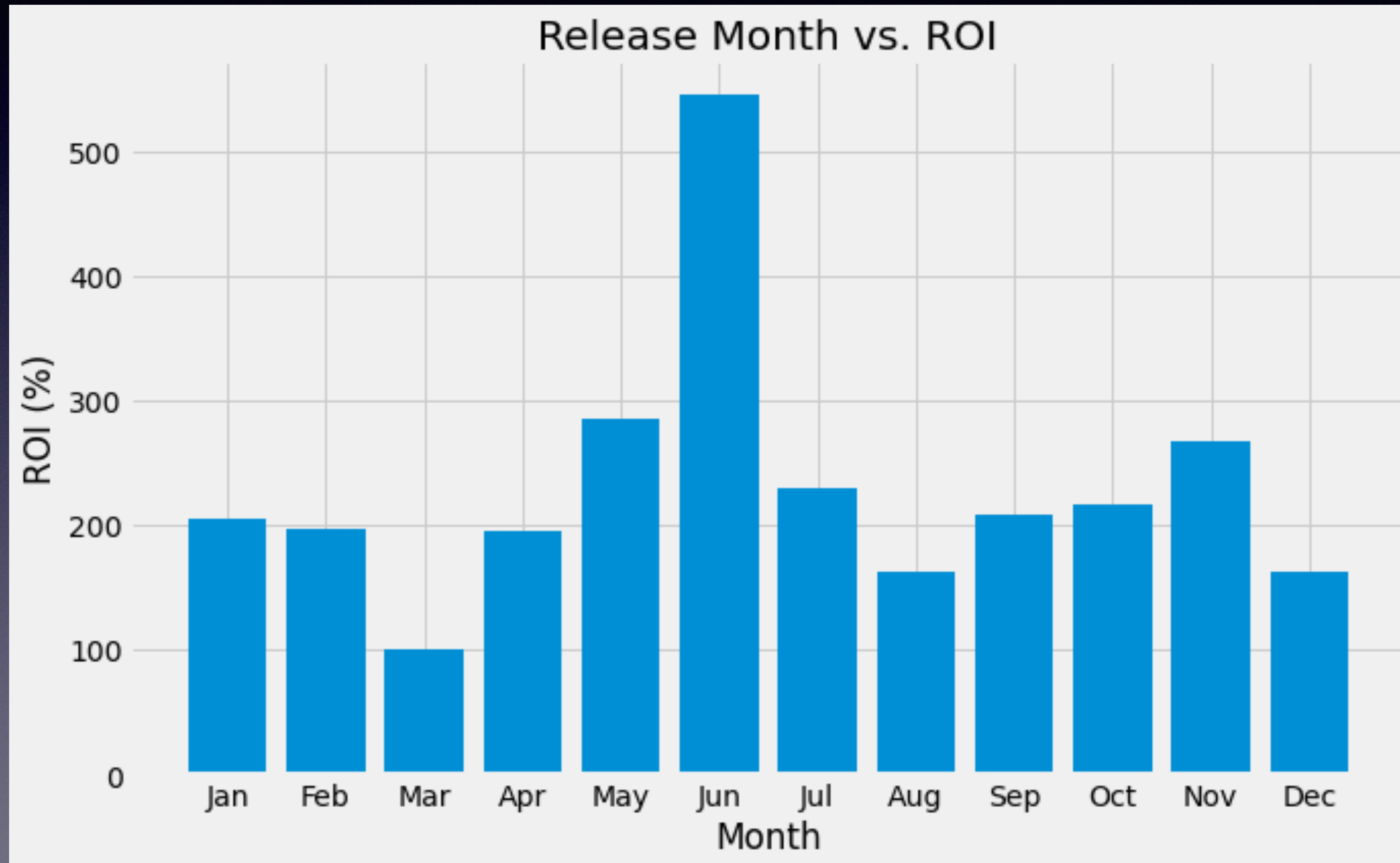
Runtime vs. ROI
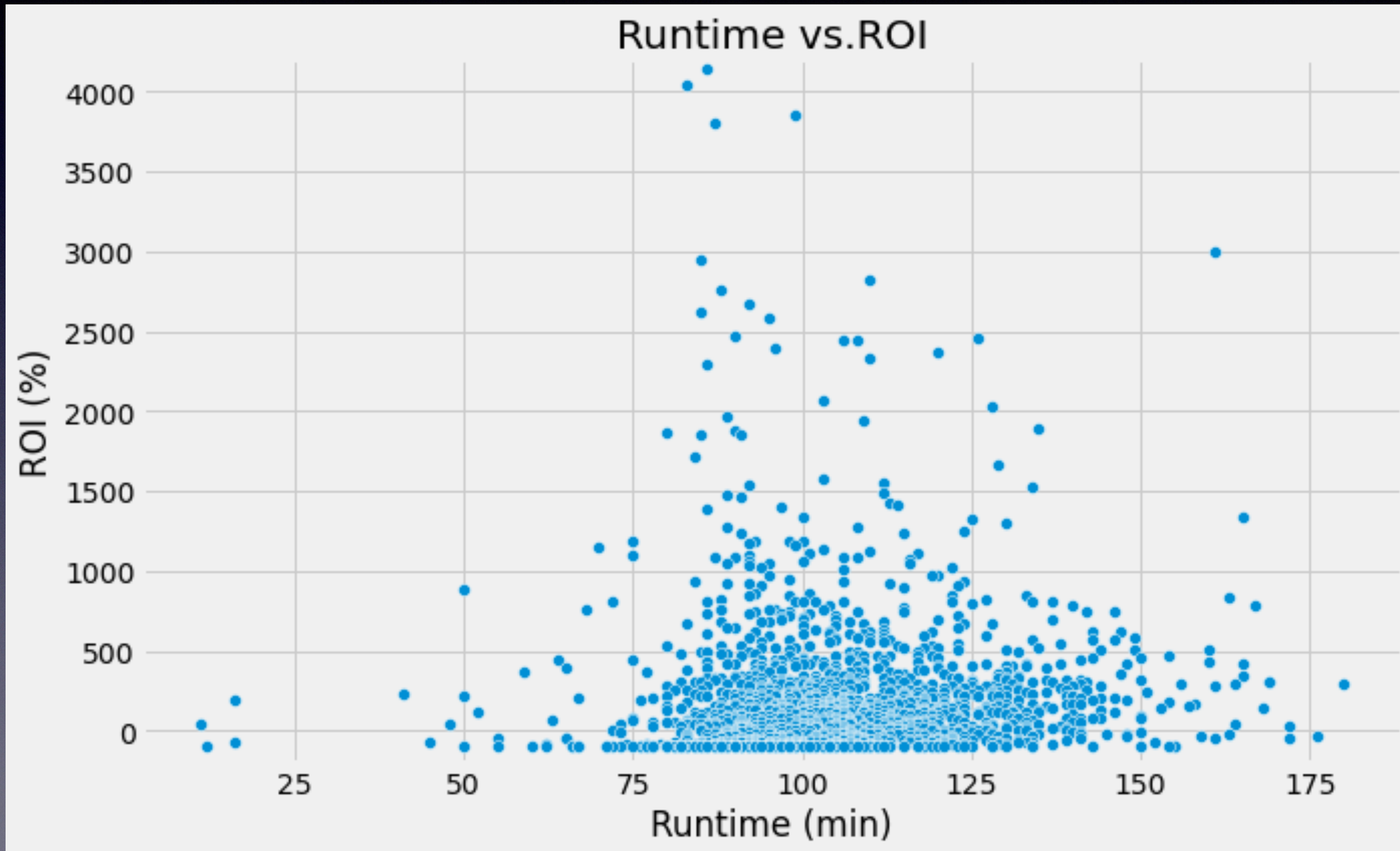
Runtime vs. ROI

Genre vs. ROI

Outcomes: Month vs. ROI

- June is the best month to release a film. March is the worst month to release a film in terms of ROI. The remaining months show a similar range of ROI's, though somewhat varied.

Outcomes: Runtime vs. ROI

- After stratifying the data to examine the extremely high outliers (i.e., the top earners by ROI), a weak negative correlation may have been seen and the top earners/Blockbuster movies ranged in length from roughly 75 min to 135 min.

Outcomes: Genres vs. ROI

- The data within the genres column was problematic in that it had improperly assigned genres as well as an abundance of mixed genres that gave little insight.

- After heavy research by individual film and subsequent data cleaning, I was able to identify genres of the top 25 earning films (by ROI). 18 of those films were 'Horror' films and 2 were 'Dramas.' The remaining 5 films consisted of 1 each of the following: 'Drama,Romance', 'Action,Biography,Drama', 'Drama,Fantasy,Romance', 'Comedy,Drama', and 'Drama,Thriller.'

Recommendations:
In order to maximize ROI:

- a) Aim to release films during June, while avoiding March.

- b) Aim to release films of length between 75 and 135 min.

- c) Aim to purchase scripts for horror and drama films.

Thank You!

Please feel free to contact me at danielle.m.rossman@gmail.com with any further questions.