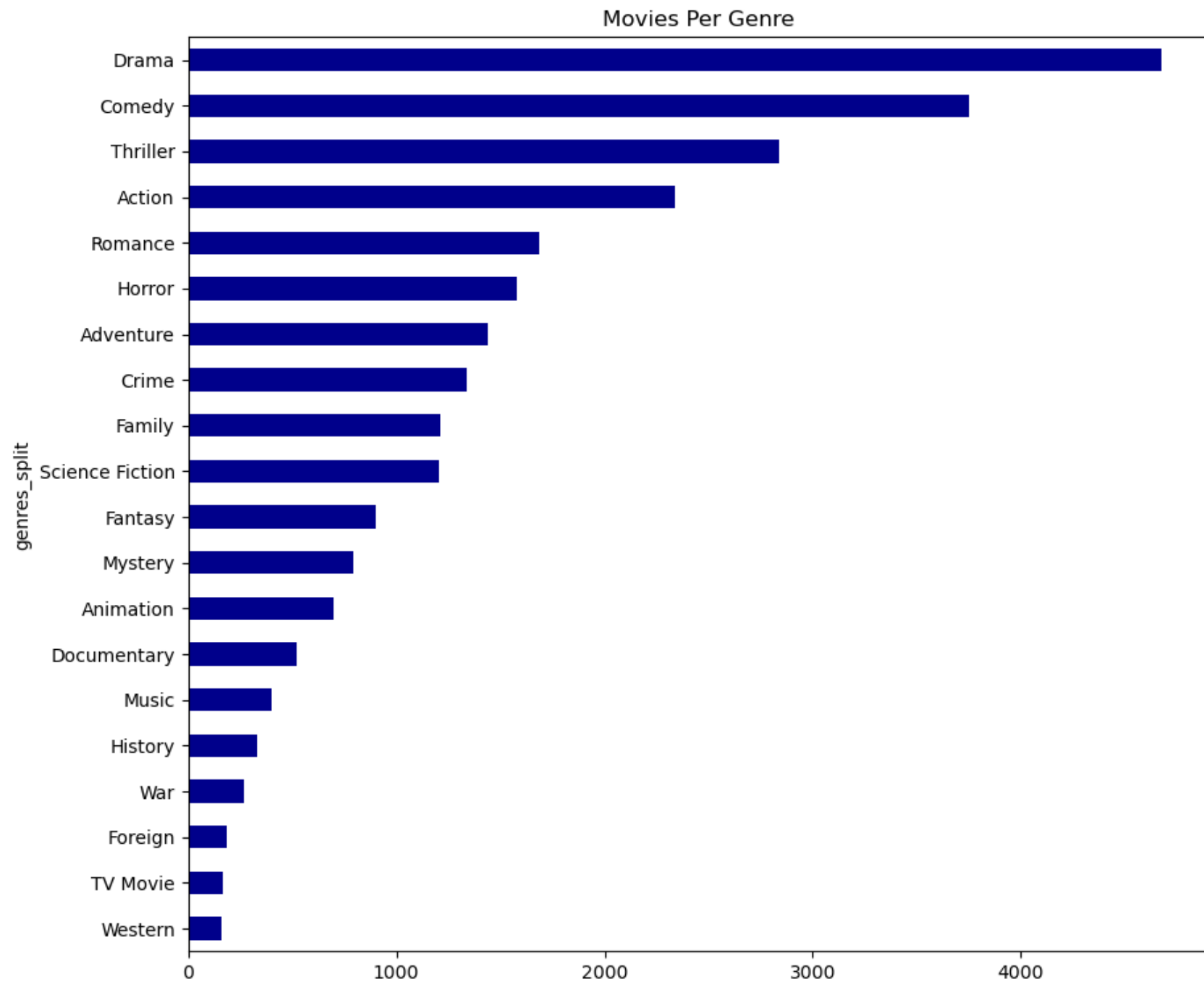


MSDS670 Data Visualization

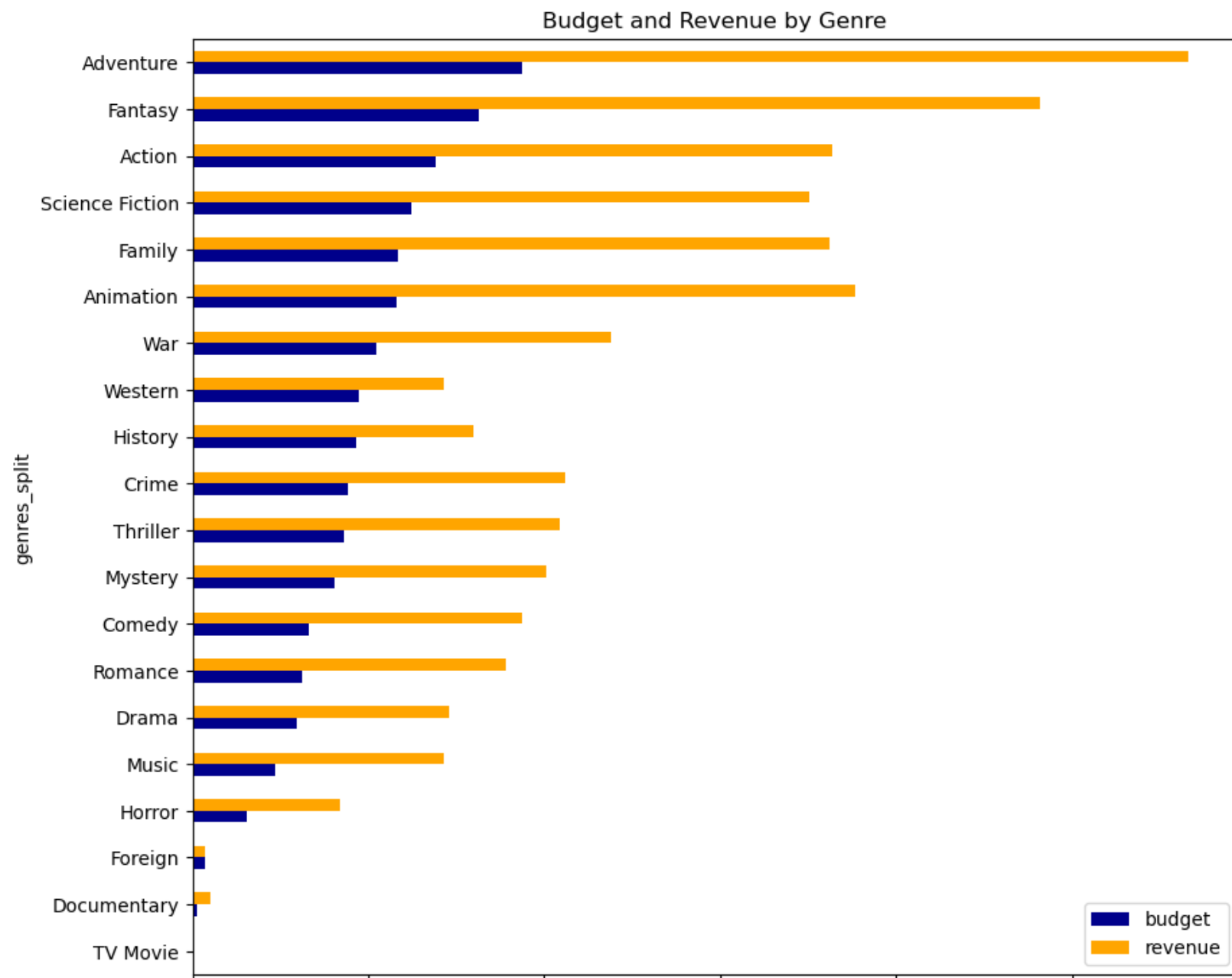
Week 8 Assignment

Binayak Bartaula

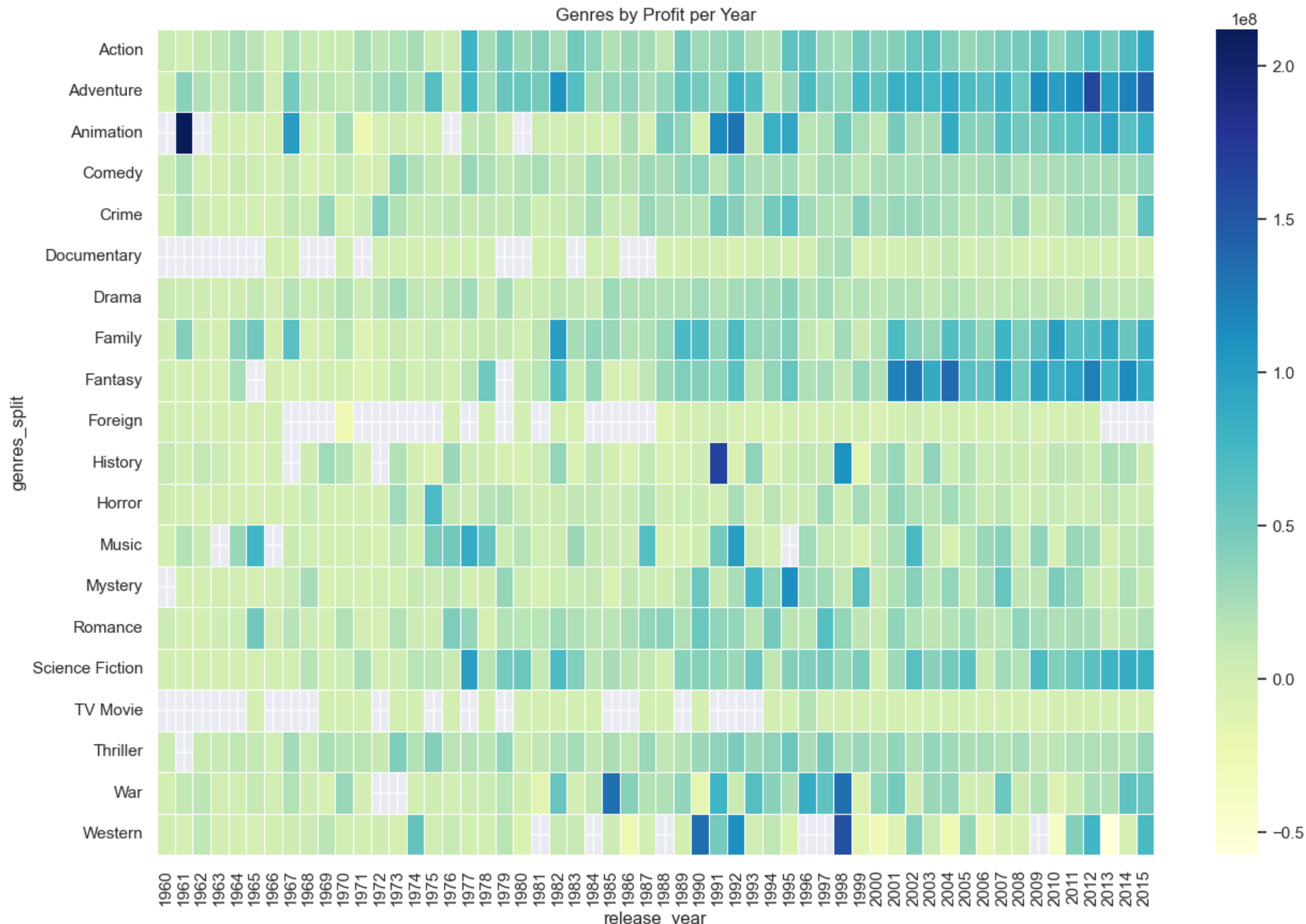
03/08/2025



- This is a horizontal bar chart showing drama and Comedy dominate, while Western and TV Movies are barely present, showing a big gap in popularity.
- Thriller and Action are strong but still trail behind Drama and Comedy, which means people crave excitement but value humor and deep stories more.
- Documentary, Music, and History have fewer movies, suggesting they cater to a smaller but dedicated audience.



- This is a horizontal bar chart comparing the budget and revenue of movies across different genres.
- Adventure and Fantasy make the most money, with revenues far exceeding their budgets, showing their strong audience appeal.
- Horror and Crime generate solid revenue despite relatively smaller budgets, making them cost-effective for studios.
- Documentary, Foreign, and TV Movies have the lowest budgets and revenues, suggesting they cater to niche audiences rather than mass markets.



- This is a heatmap showing movie profit by genre over the years. Darker shades indicate higher profits, while lighter or white areas show lower or negative profits.
- From the 1990s to 2015, Action, Adventure, and Science Fiction have been consistently profitable, especially proving they are audience favorites.
- Documentary, History, and Foreign films have many white spaces, especially before the 1980s, suggesting they had fewer releases and lower profits.

Conclusion

- Drama and Comedy dominate in the sheer number of movies, but Adventure, Action, and Fantasy bring in the most revenue, proving that popularity doesn't always equal profitability.
- Movie profits have increased significantly since the late 1990s, with genres like Adventure and Sci-Fi leading the way, thanks to the rise of blockbuster franchises like Jurassic World.
- Big-budget genres like Action, Sci-Fi, and Animation consistently generate high profits, while Horror and Crime thrive on smaller budgets, making them cost-effective for studios.
- Niche genres like Documentary, History, and Foreign films remain less profitable and have fewer releases, especially before the 1980s, reflecting their smaller but dedicated audience.
- Profitability varies across years, with some periods (especially in the 1960s and 1970s) showing lower earnings, while the 2000s and 2010s saw a surge in successful films across multiple genres.

Tools and Libraries used

- ● Numpy : Python fundamental package for scientific computing
- ● Pandas : Python data wrangling library
- ● Scikit-Learn : For Machine Learning and Vectorization
- ● Seaborn : Statistical visualization too built on top of matplotlib.
- ● Matplotlib : Foundational library for visualizations.
- ● Jupyter Notebook : Interactive Python Programming server-client interface.