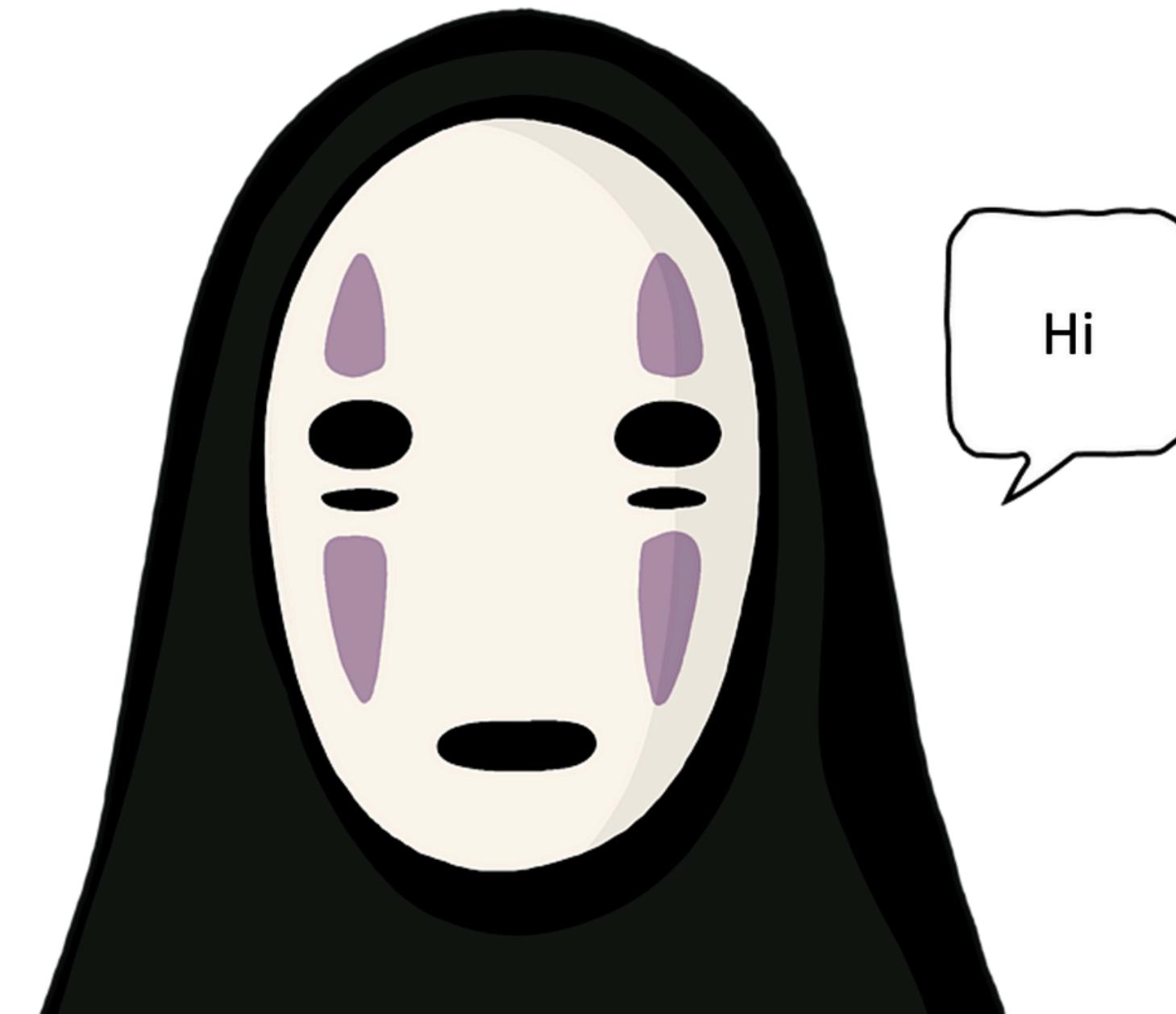


DATA 400 PROJECT

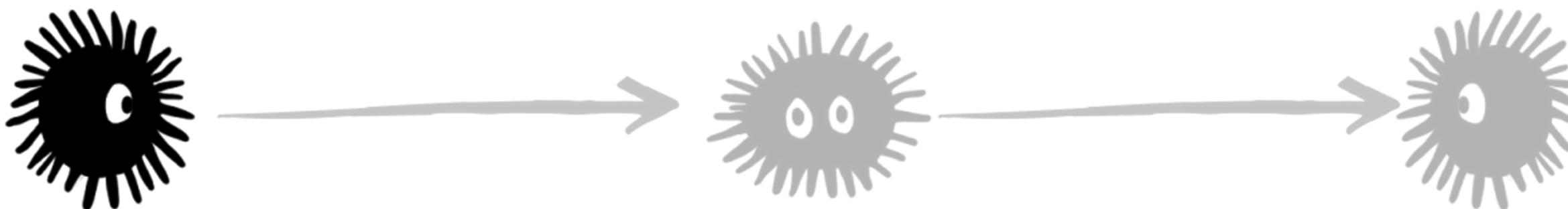
Faye Le & Dylan Nguyen





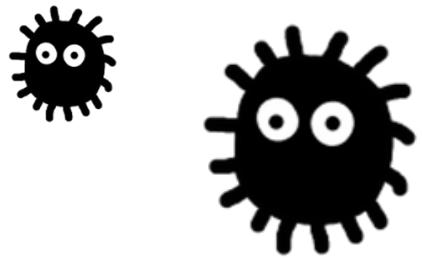
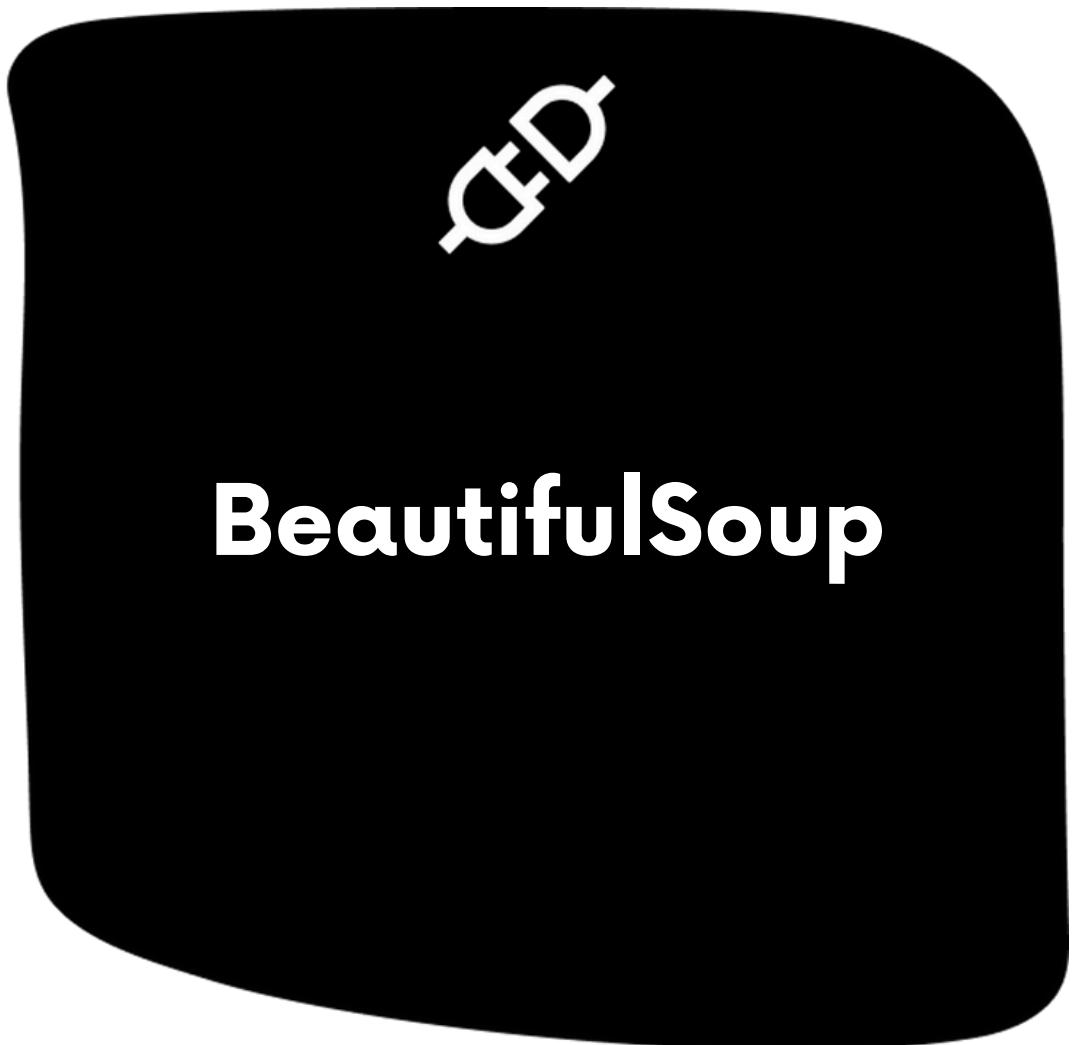
From Studio to Screen: Visualizing Anime Trends and Explaining the Unexpected

DATA COLLECTING



DATA COLLECTING

- Source:
myanimelist.net
- Scrape



DATA SCRAPING: Selenium



Purpose

Automates web browsers for interaction with websites requiring user actions or JavaScript rendering

Loop Design

- Scraps basic information (Title, Rank, Score, URL) for 50 anime per page
- Bot clicks “Next Page” and repeats until data for 10,000 anime is collected

Usage

- Scraps basic information (Title, Rank, Score, URL) for 50 anime per page
- Bot clicks “Next Page” and repeats until data for 10,000 anime is collected

Limitation

- Website has Captcha that disrupts scraping
- Code needed re-running 3 times due to crashes
- Final dataset combined outputs from 3 different runs

DATA SCRAPING: BeautifulSoup



Purpose

Extracts metadata for each anime using URLs from the Selenium dataset

Storage

- Data stored in a list for conversion into a Pandas DataFrame
- Final dataset combines metadata with Title, Rank, and Score from URLs

Process

- Checks each anime page response; retries up to 6 times if unsuccessful.
- Adds a 1-3 second wait time between requests to avoid Captcha.
- Converts scraped metadata into strings

Limitation

- It scrapes pre-recorded data only
- No auto-click like Selenium
- Comments require manual clicks

DATA COLLECTING

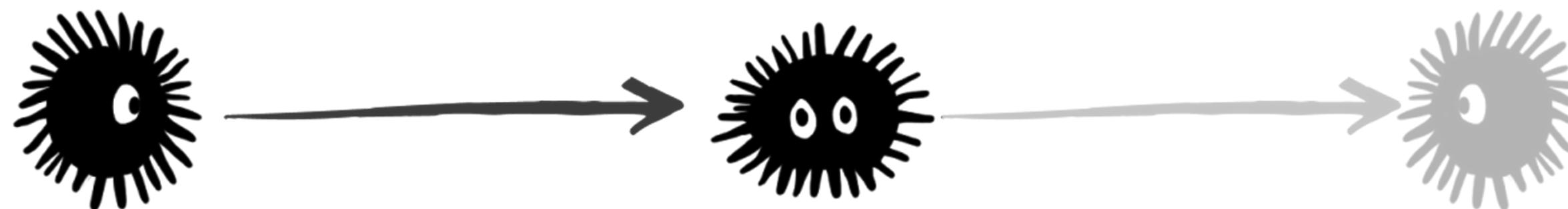


- 10,000 data
- 8 variables
- Numerical - Score & Episodes
- Categorical - Others

Rank	Title	URL	Score	Genres	Episodes	Premiered	Studio	Type	Source	
0	Sousou no Frieren	https://myanimelist.net/anime/52991/Sousou_no_Frieren	9.32	Adventure, Drama, Fantasy, Shounen	28	Fall 2023	Madhouse	TV	Manga	
1	One Piece Fan Letter	https://myanimelist.net/anime/60022/One_Piece_Fan_Letter	9.17	Action, Adventure, Fantasy, Shounen	1	Premiered season not found	Toei Animation	TV Special	Light novel	
2	Fullmetal Alchemist: Brotherhood	https://myanimelist.net/anime/5114/Fullmetal_Alchemist_Brotherhood	9.09	Action, Adventure, Drama, Fantasy, Military, Sci-Fi	64	Spring 2009	Bones	TV	Manga	
3	Steins;Gate	https://myanimelist.net/anime/9253/Steins_Gate	9.07	Drama, Sci-Fi, Suspense, Psychological, Time Travel	24	Spring 2011	White Fox	TV	Source not found	
4	Shingeki no Kyojin Season 3 Part 2	https://myanimelist.net/anime/38524/Shingeki_no_Kyojin_Season_3_Part_2	9.05	Action, Drama, Suspense, Gore, Military, Survival	10	Spring 2019	Wit Studio	TV	Manga	
...	
9839	9996	Garugaku. II: Lucky Stars	https://myanimelist.net/anime/50495/Garugaku_II_Lucky_Stars	5.96	Idols (Female), Music, School	50	Premiered season not found	OLM	TV	Source not found
9840	9997	Guan Hai Ce	https://myanimelist.net/anime/38689/Guan_Hai_Ce	5.96	Action, Fantasy, Historical, Martial Arts, Military	16	Premiered season not found	Tong Ming Xuan	ONA	Source not found
9841	9998	Hatara Kids Mai Ham Gumi	https://myanimelist.net/anime/3251/Hatara_Kids_Mai_Ham_Gumi	5.96	Action, Kids	50	Premiered season not found	Toei Animation	TV	Source not found
9842	9999	Hatsukoi Monster: Mou Chotto dake Tsuzukunja	https://myanimelist.net/anime/34016/Hatsukoi_Monster_Mou_Chotto_dake_Tsuzukunja	5.96	Comedy, Romance, School, Shoujo	1	Premiered season not found	Studio Deen	OVA	Manga
9843	10000	Hello Kitty no Kieta Santa-san no Boushi	https://myanimelist.net/anime/22481/Hello_Kitty_no_Kieta_Santa-san_no_Boushi	5.96	Fantasy, Kids	1	Premiered season not found	add some	OVA	Source not found

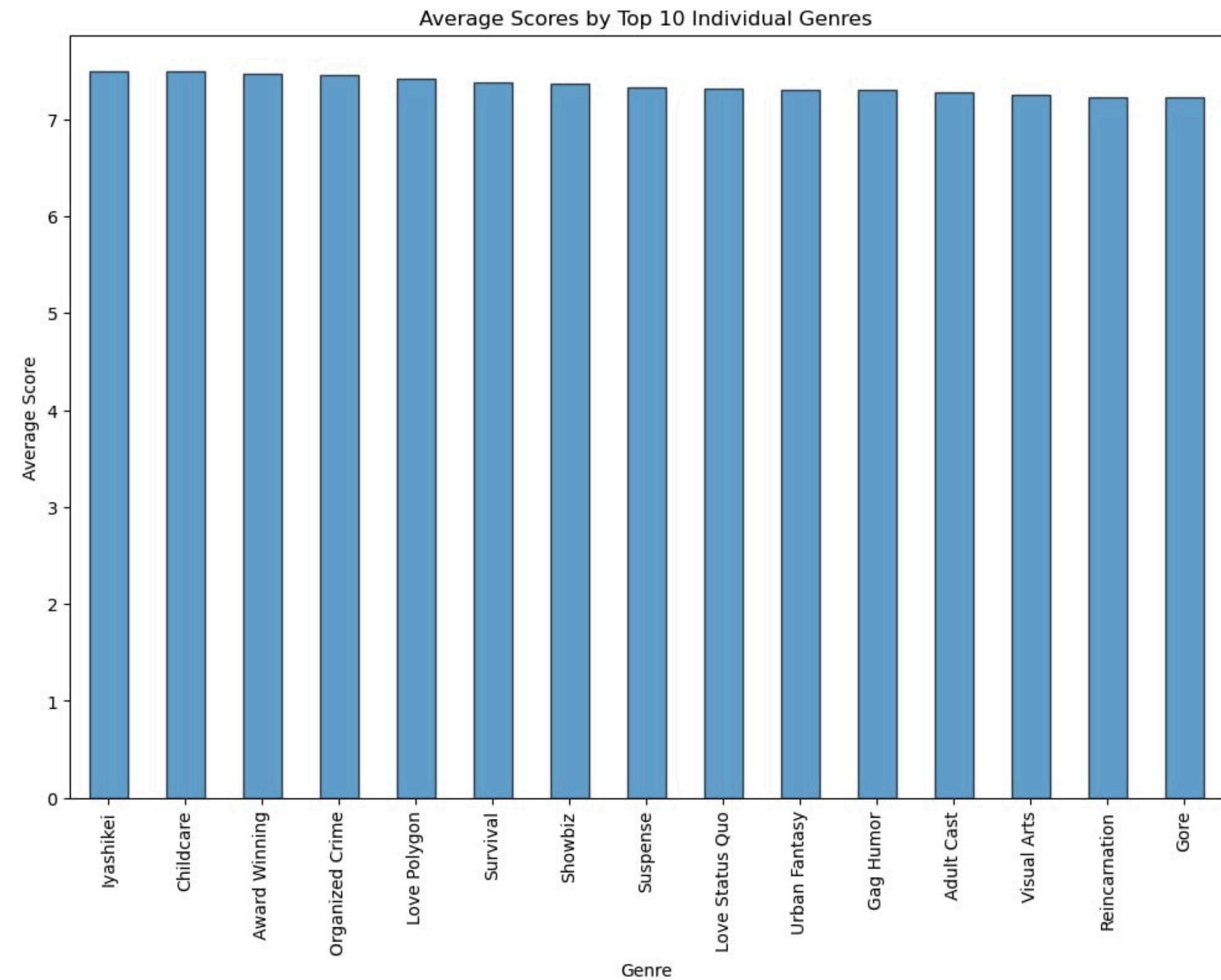
9844 rows × 10 columns

VISUALIZING & EXPLAINING



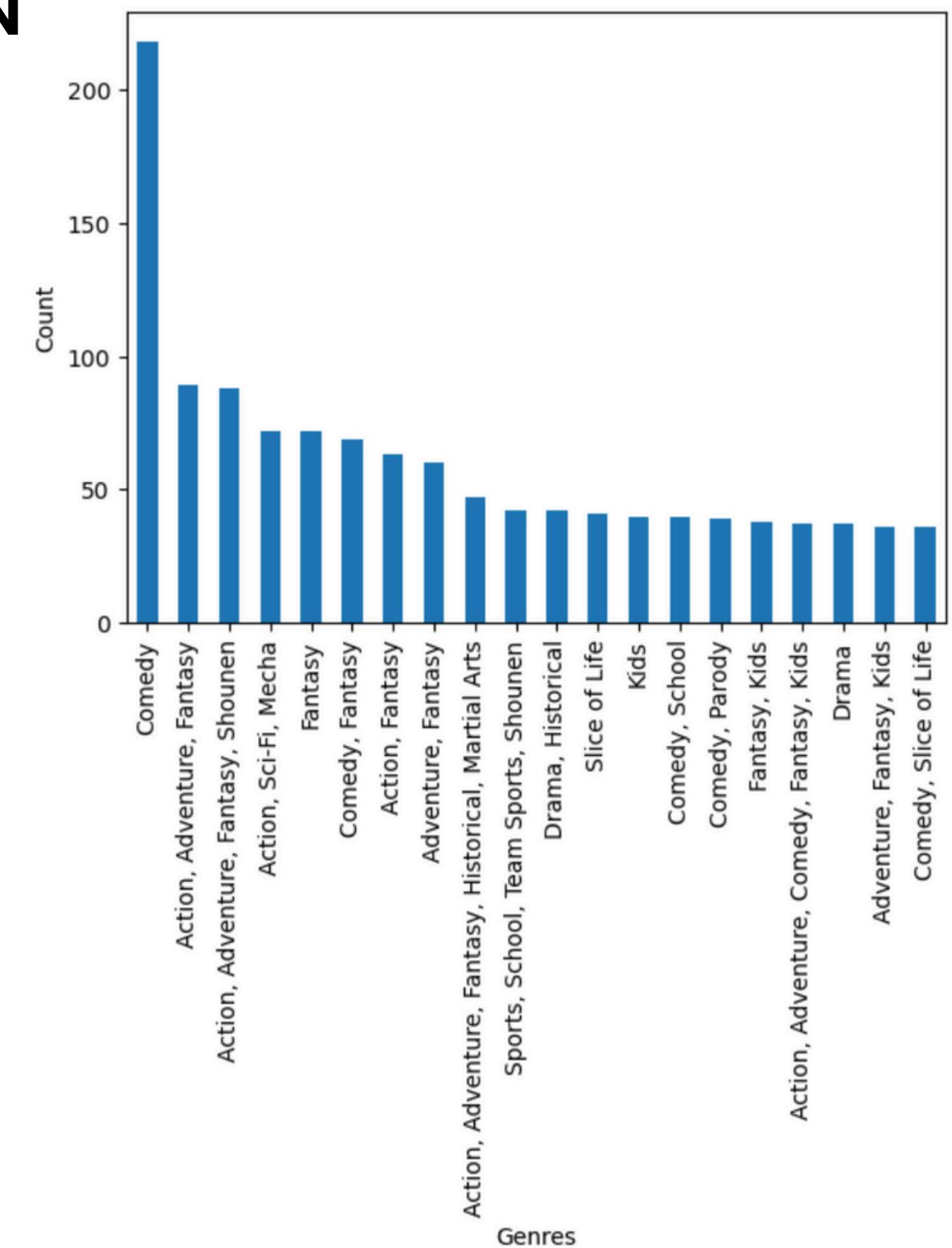
DISTRIBUTION ANALYSIS

- Similar average scores (~7.3 to 7.5)
- Diverse Mix: Genres range from calm (Iyashikei, Childcare) to intense (Survival, Organized Crime)



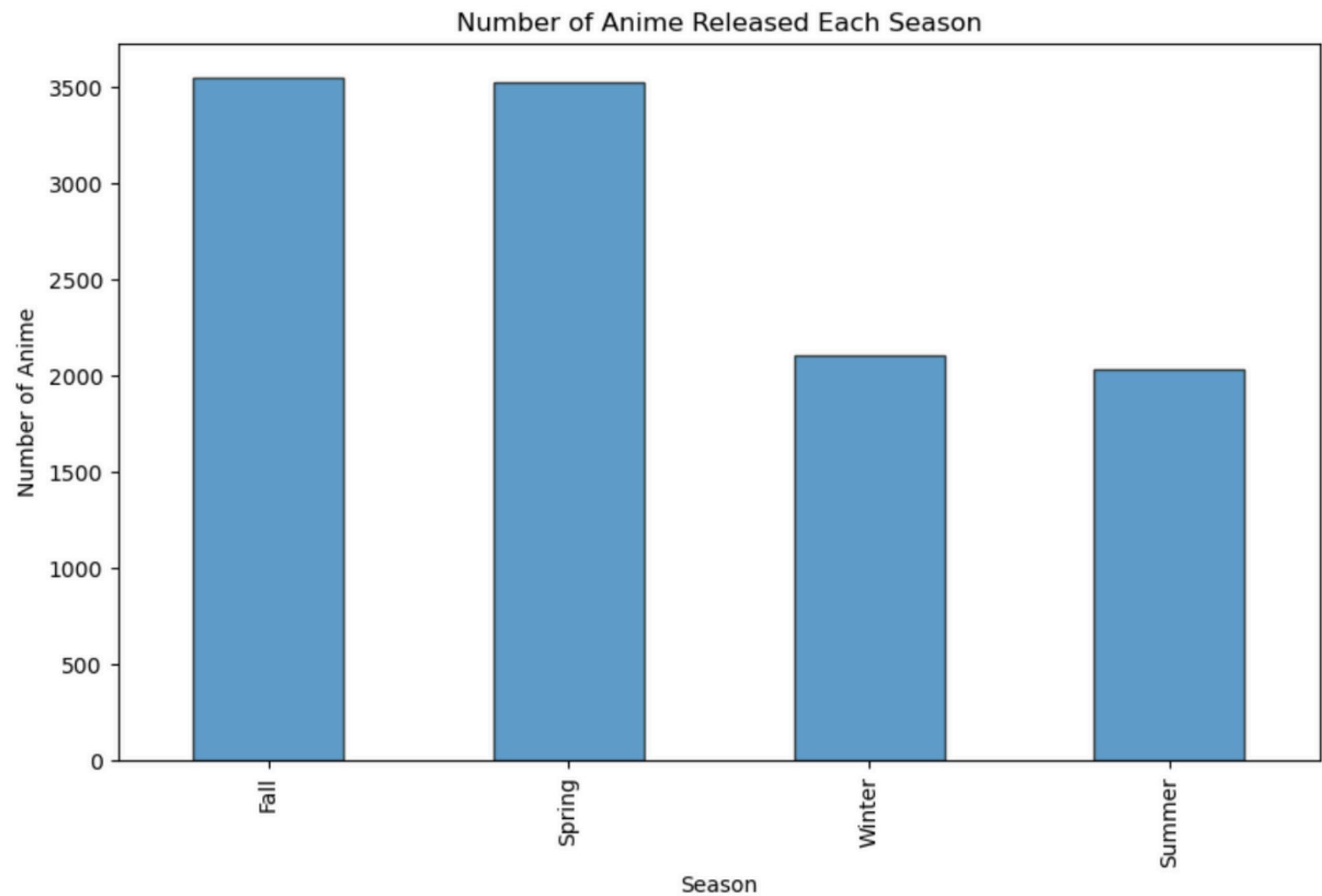
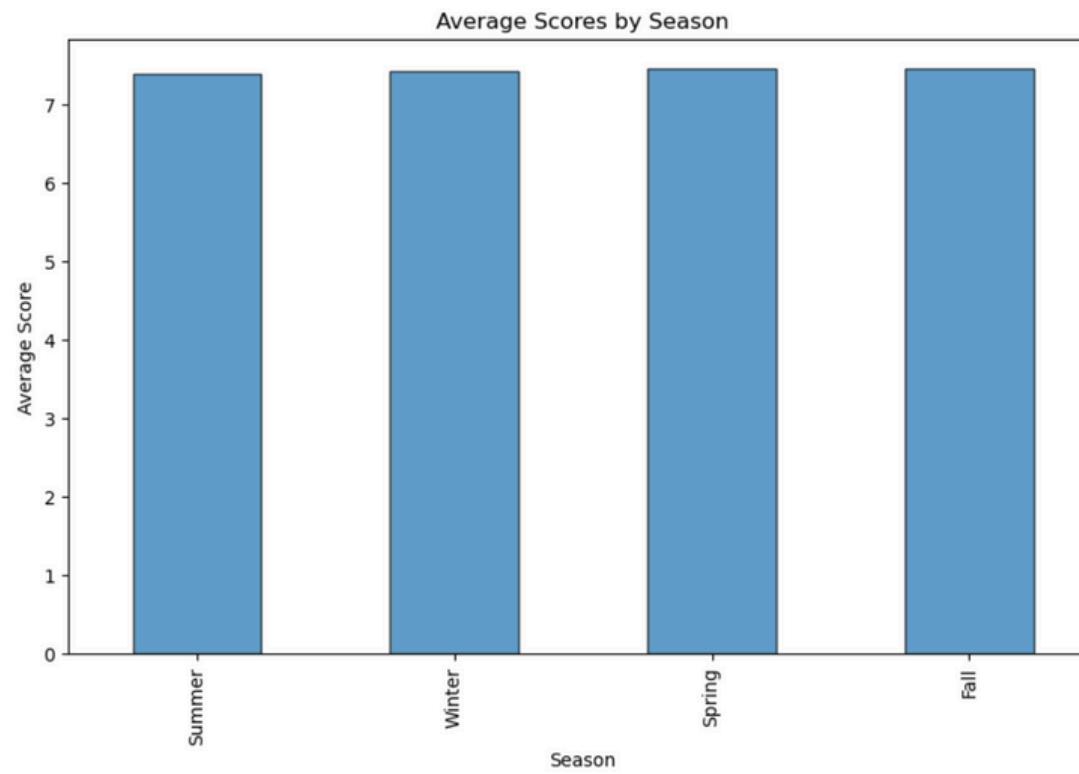
CATEGORICAL DISTRIBUTION

- Comedy has a significantly higher count than all other categories
- Popular combinations like Action, Adventure, Fantasy



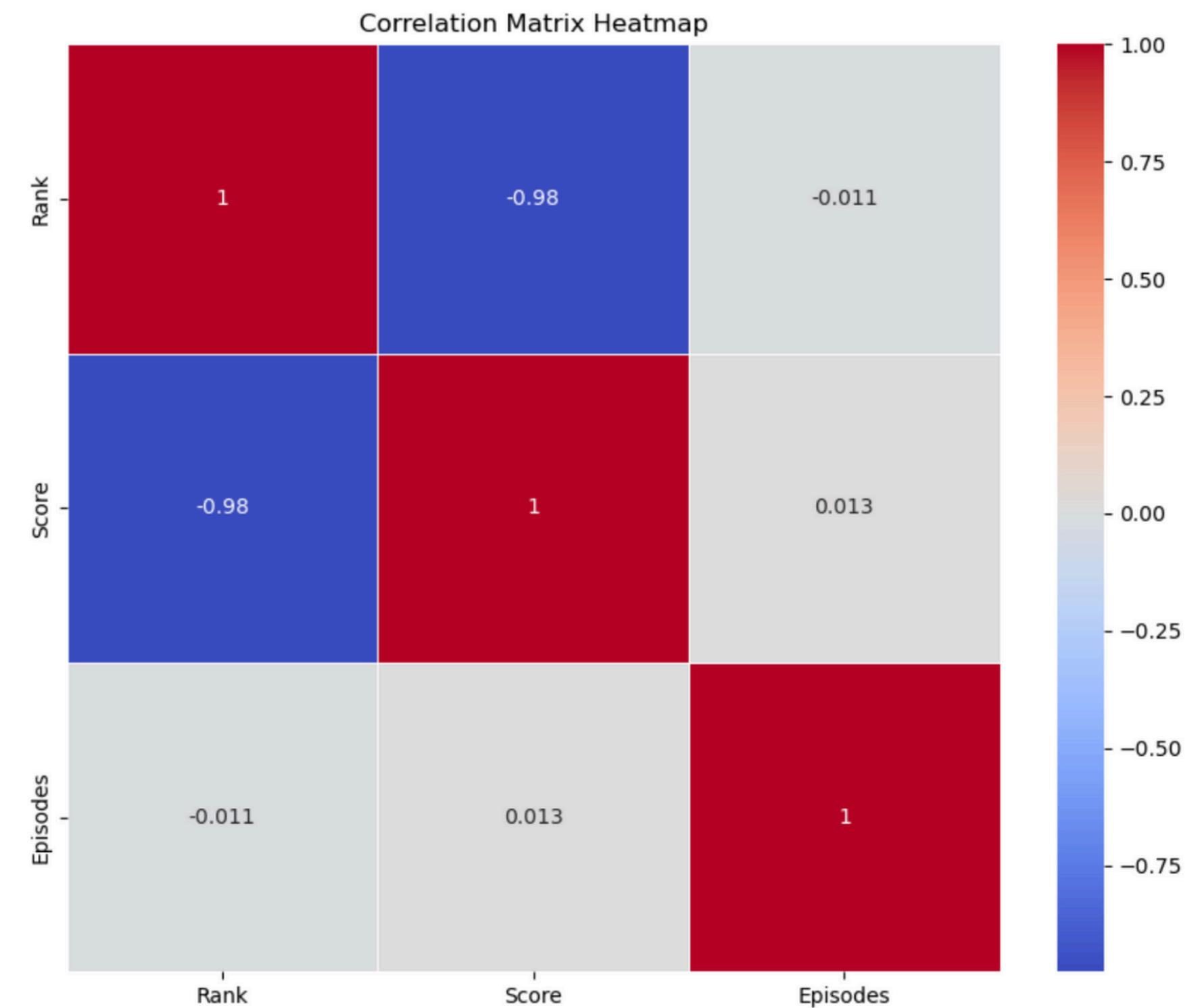
CATEGORICAL DISTRIBUTION

- Winter and Summer have fewer releases
- Insights:
 - Production Cycles
 - Advertising and Merchandising



CORRELATION ANALYSIS

- Numerical variables
- No correlation between Episodes & Scores



ANOVA table for categorical variables

- Strongest Predictor: Season

- F-statistic: 2510.04939
- The season of release is the most influential factor on an anime's average score.

- Weakest Predictor: Genres

- F-statistic: 27.51558
- The genre, though significant, has the least impact on an anime's average score compared to other variables.

ANOVA Table for Genres:

	sum_sq	df	F	PR(>F)
C(Genres)	906.339205	86.0	27.51558	0.0
Residual	14459.893920	37753.0	NaN	NaN

ANOVA Table for Type:

	sum_sq	df	F	PR(>F)
C(Type)	503.380276	5.0	256.275017	2.671507e-270
Residual	14862.852850	37834.0	NaN	NaN

ANOVA Table for Season:

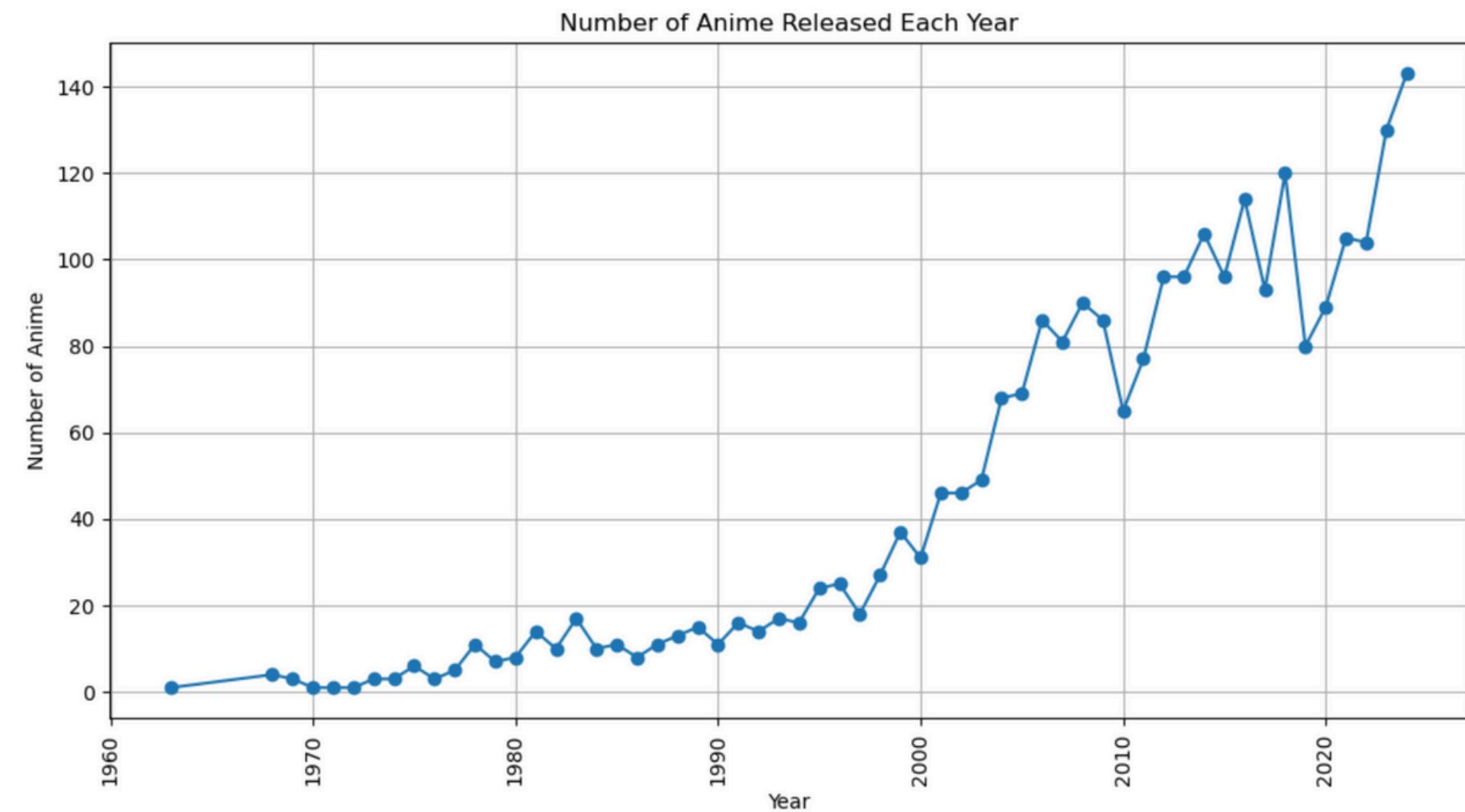
	sum_sq	df	F	PR(>F)
C(Seasonal)	3222.545789	4.0	2510.04939	0.0
Residual	12143.687336	37835.0	NaN	NaN

ANOVA Table for Year:

	sum_sq	df	F	PR(>F)
C(Year)	3348.887478	58.0	181.525423	0.0
Residual	12017.345647	37781.0	NaN	NaN

CHART ANALYSIS

- A sharp increase post 2000s
- Insights:
 - Streaming Platforms
 - Production Boom
- Minor dips in 2010, 2019
(before COVID)
- Insights:
 - The 2019 Studio Tragedy



NEWS | WORLD

Japan: Man sentenced to death for Kyoto anime studio fire which killed 36

Shinji Aoba set the studio ablaze by dousing the entrance area of the building with petrol



CHART ANALYSIS

- Sharp spikes and drops around 1970s
- Fluctuation and Stabilization
- Insights:
 - Industry Maturation
 - Emergence of New Genres

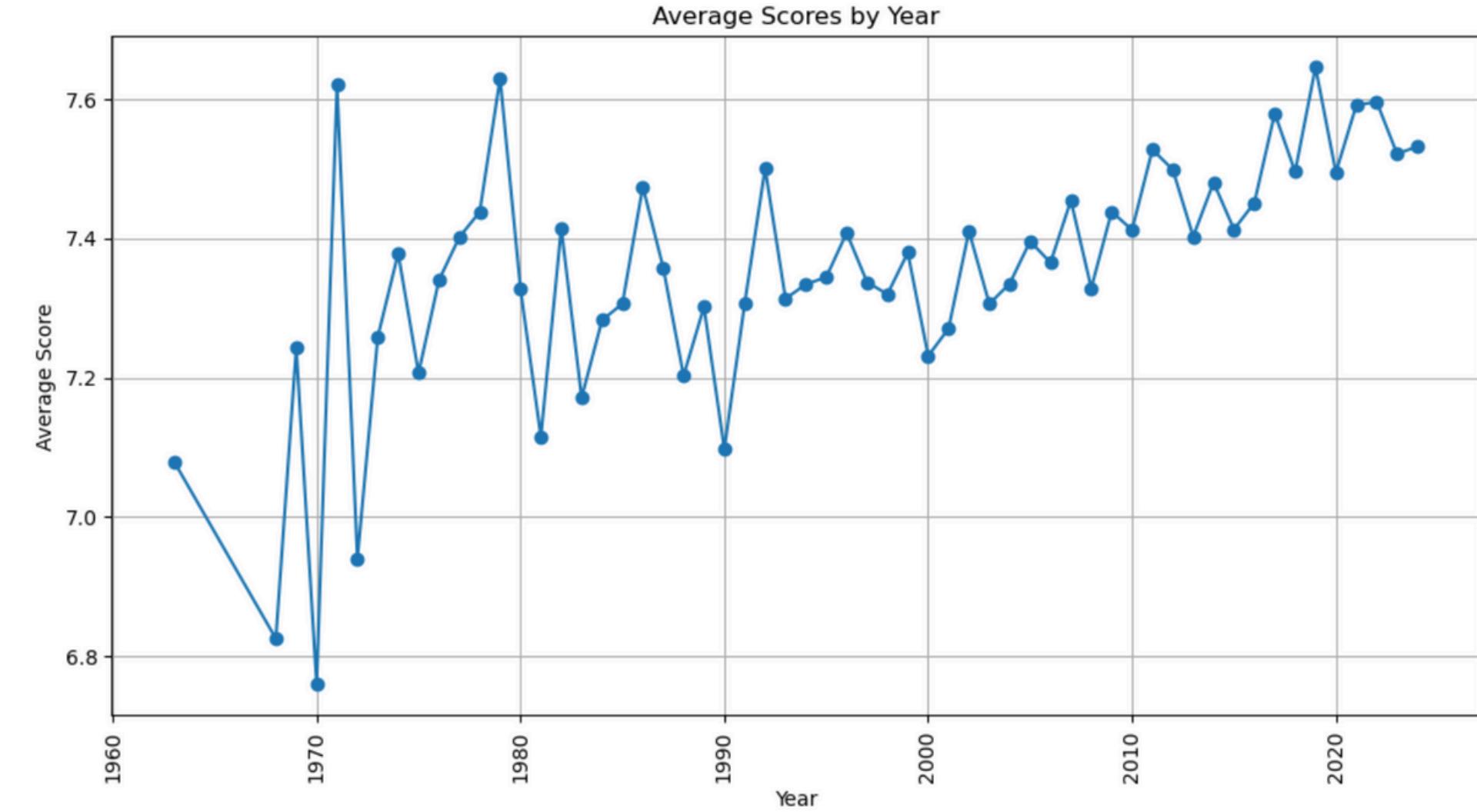
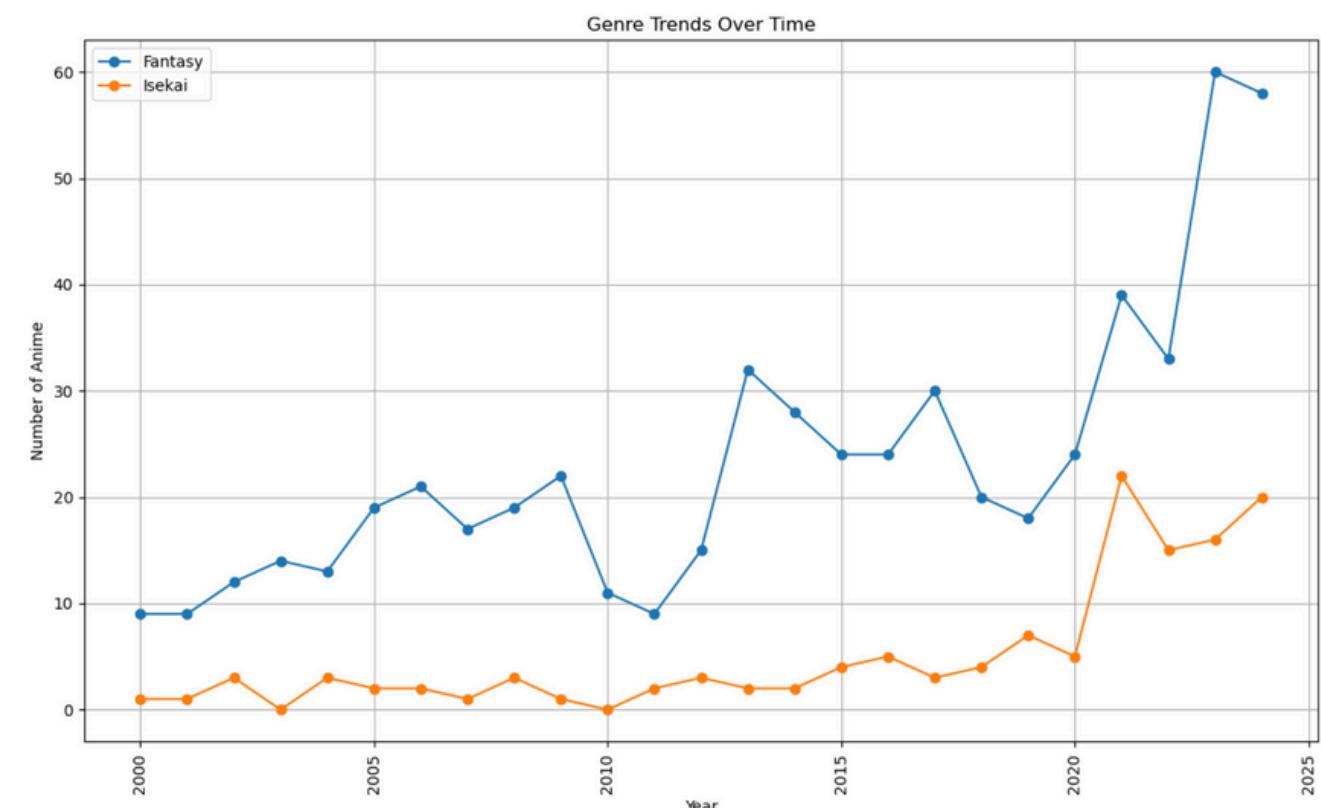
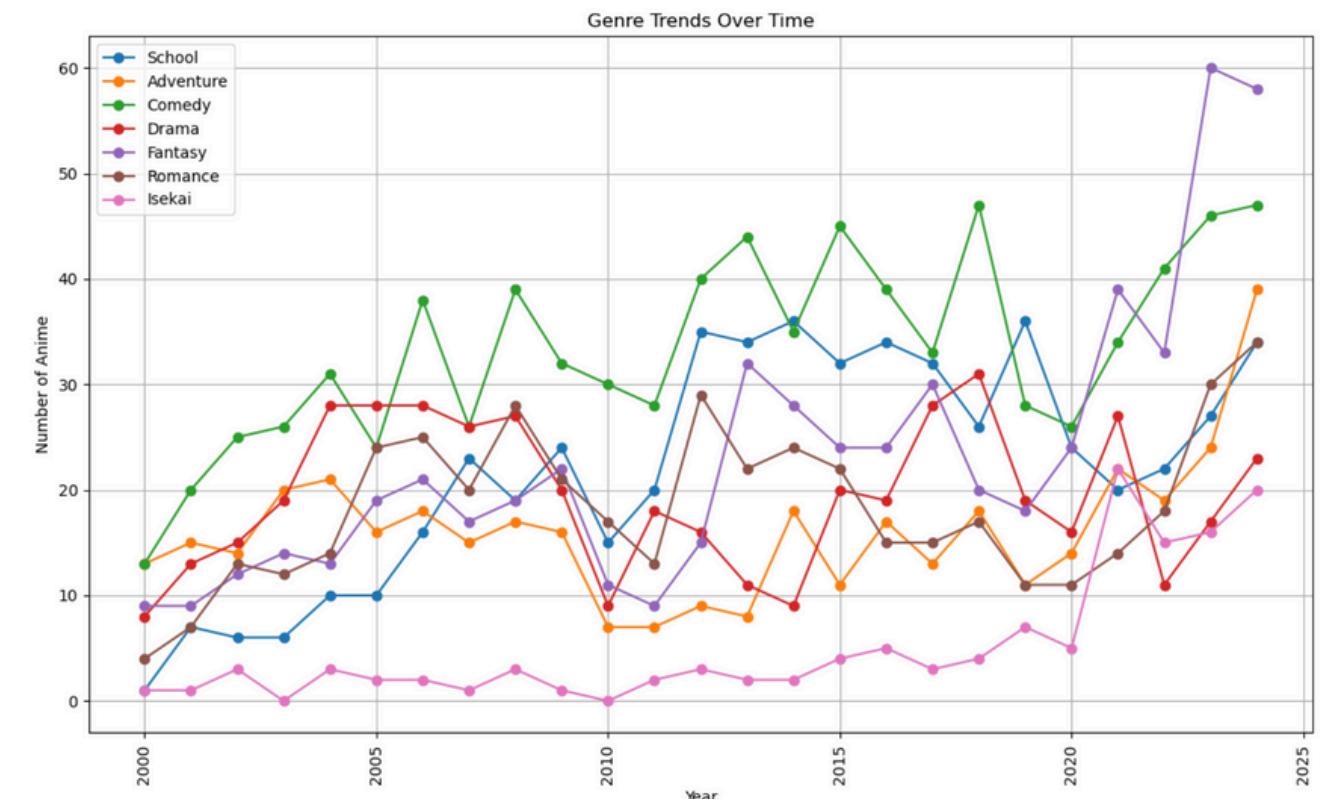


CHART ANALYSIS

- Fantasy is the leading genre, seeing explosive growth post-2020
- Isekai experienced a late surge after 2015, peaking in 2020



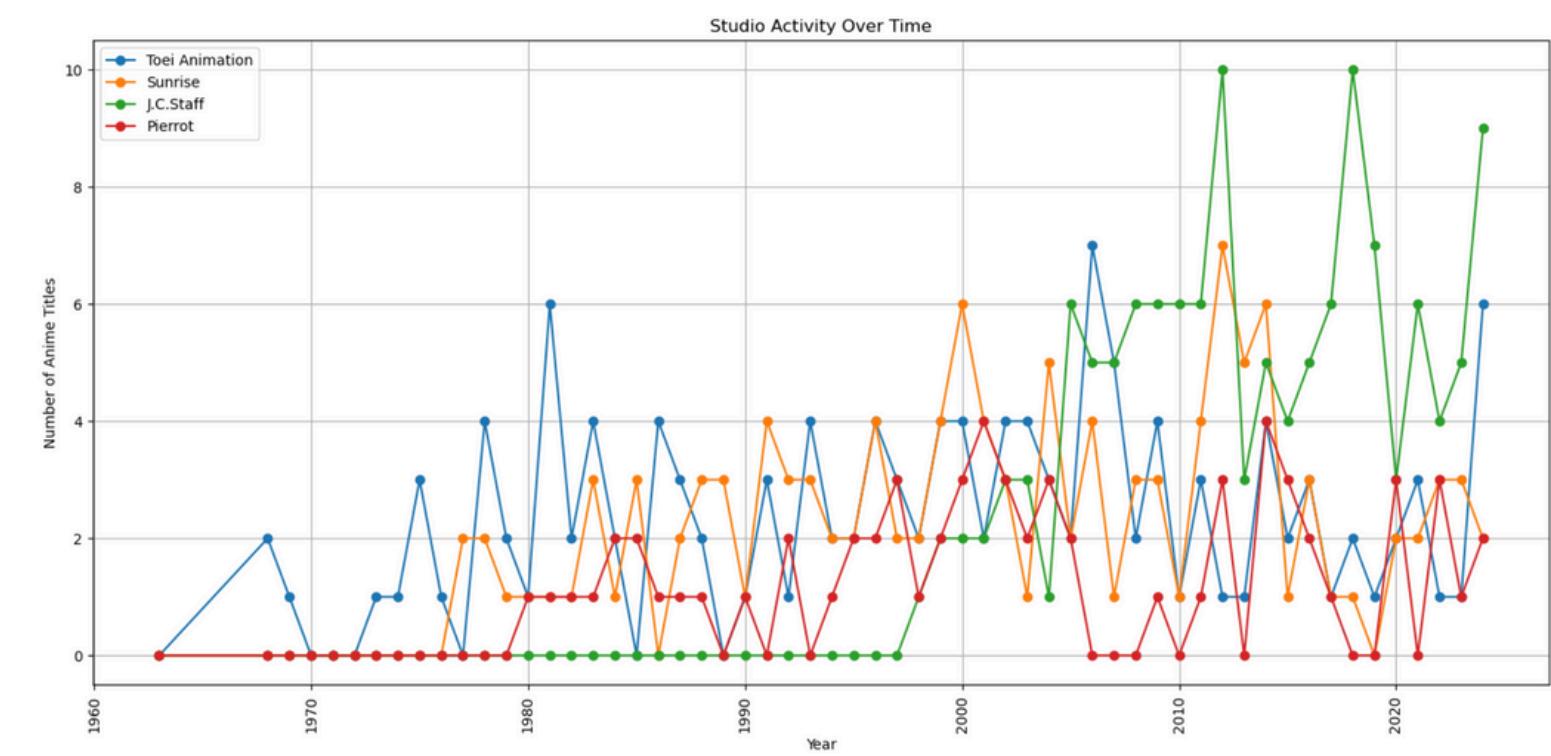
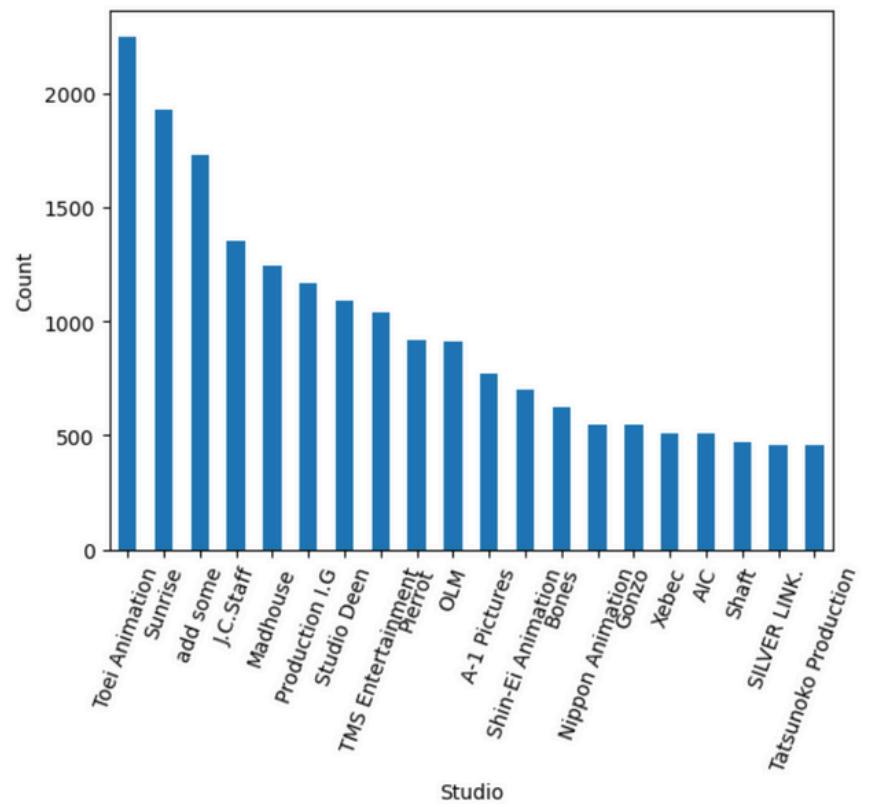
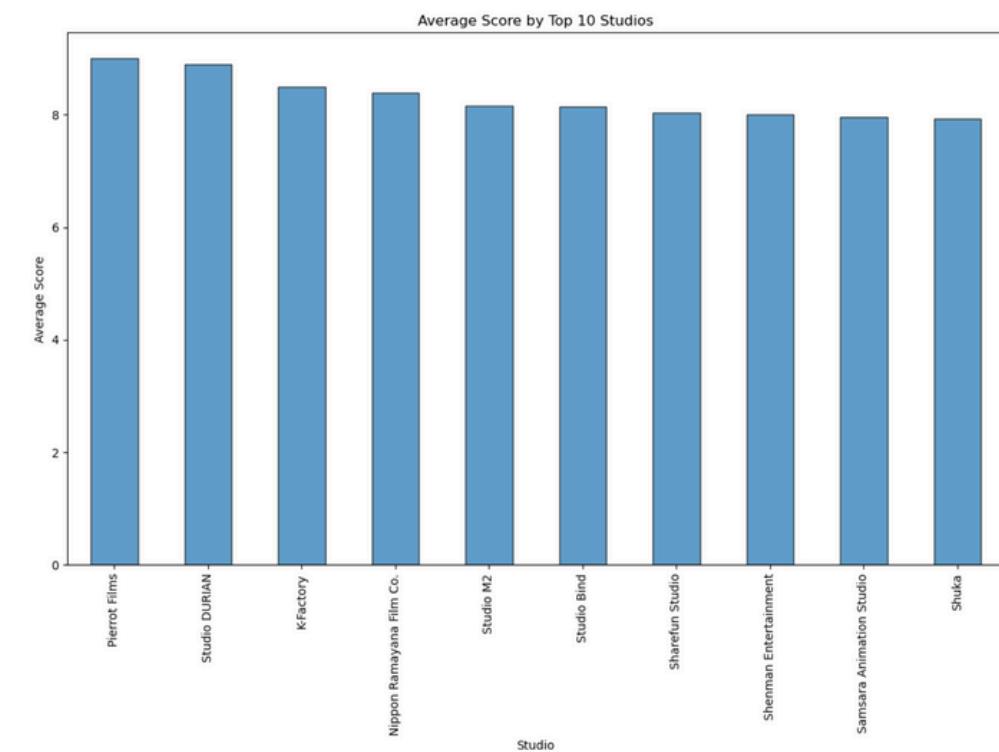
WORLD CLOUD ANALYSIS

- Fantasy and Isekai
 - 2nd Season: Sequel
 - Dominance
 - Kanojo (Girlfriend), Princess, Girl: Many titles emphasize relationships or personal perspectives

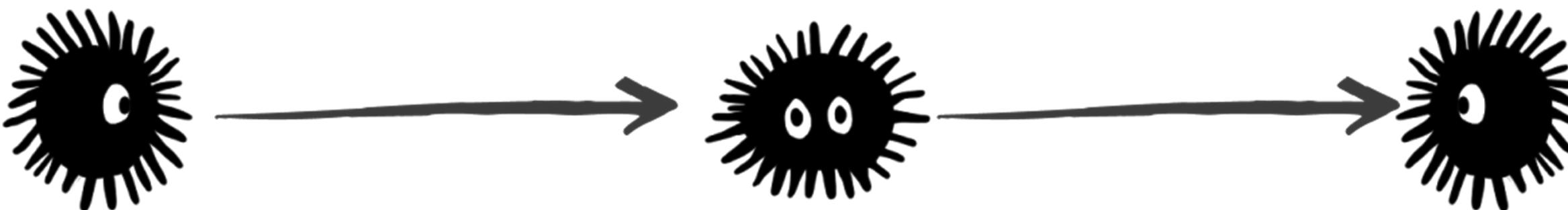


STUDIO ANALYSIS

- Studios with fewer productions but higher quality
- Studio activity varies significantly over time
- J.C. Staff is a relatively newer studio but quickly risen to become a major producer



IMPLICATIONS & RIGHTS



Implications for stakeholders



For Anime Studios

- Rising Competition: New studios producing high-quality anime signal increased competition, requiring established players to innovate to maintain market dominance.

For Streaming Platforms (Netflix, Crunchyroll, etc.)

- Predict Seasonal Demand: Fall and Spring dominate anime releases. Platforms should optimize release schedules for these peak periods to maximize engagement.

For Marketers and Merchandisers

- Focus on Niche Appeal: Genres like Isekai and Fantasy have dedicated fanbases, making them ideal for targeted marketing and exclusive merchandise.

Ethical, legal, societal implications



Ethical Implications

- Content Sensitivity: Genres like Isekai and Fantasy sometimes include controversial themes (e.g., violence, fan service) that may negatively influence younger audiences.

Legal Implications

- Streaming Rights: Platforms competing for exclusive streaming rights can create monopolistic practices, limiting consumer choice and fair access.

Societal Implications

- Cultural Representation: Anime's global spread influences perceptions of Japanese culture, creating opportunities for cultural appreciation but also risks misrepresentation.

