

# CAPSTONE PROJECT

# FANDANGO SCORE ANALYSIS

**Presented By:**

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# OUTLINE

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# Problem Statement

- To investigate the accuracy and reliability of Fandango's movie rating system by analyzing discrepancies between Fandango's ratings and those of other prominent review aggregators.
- This analysis aims to uncover any potential biases or inconsistencies in Fandango's rating methodology, shedding light on the reliability of Fandango's scores for moviegoers and the film industry as a whole.

# Proposed Solution

- Data Collection: Gather movie ratings data from Fandango, Rotten Tomatoes, IMDb, and other relevant sources for a representative sample of movies released within a certain time frame.
- Data Cleaning: Standardize the data format and address any inconsistencies or missing values to ensure accuracy in the analysis.
- Comparative Analysis: Compare the ratings distribution of movies on Fandango with those on Rotten Tomatoes and IMDb using statistical methods such as mean, median, and distribution plots.
- Bias Detection: Identify any patterns or discrepancies that suggest bias in Fandango's ratings, such as inflated scores, favoritism towards certain studios or genres, or correlation with ticket sales.
- Stakeholder Consultation: Discuss findings with industry experts, movie critics, and Fandango representatives to gain insights into potential reasons for discrepancies and their implications.
- Recommendations: Based on the analysis and stakeholder feedback, propose recommendations for improving transparency and accuracy in Fandango's rating system, which may include adjustments to rating algorithms, disclosure of rating criteria, or independent auditing.
- Reporting: Compile the analysis results and recommendations into a comprehensive report or presentation for dissemination to stakeholders and the public, highlighting key findings and actionable insights.

# System Approach

A systems approach for Fandango score analysis involves considering the various interrelated components and their interactions within the context of the movie rating ecosystem. Here's how it could be approached:

- System Boundary Definition: Define the boundaries of the analysis, including Fandango's rating system, its users, movie studios, review aggregators, and the broader movie industry.
- Stakeholder Identification: Identify key stakeholders involved, such as moviegoers, filmmakers, critics, Fandango staff, and competitors.
- Inputs and Outputs Identification: Identify the inputs to the Fandango rating system, such as user reviews, critic reviews, movie metadata, and ticket sales data, as well as the outputs, which are the movie ratings displayed to users.
- Interactions and Feedback Loops: Analyze the interactions and feedback loops between stakeholders and components within the system. For example, user ratings on Fandango may influence other users' movie choices, which in turn affect ticket sales and studio revenues.
- Data Collection and Analysis: Collect relevant data on movie ratings, user reviews, ticket sales, and other variables to calibrate and validate the system dynamics model. Use statistical analysis techniques to identify patterns and trends in the data.

# Algorithm & Deployment

## Algorithm Development:

- \*Data Collection: Gather movie ratings data from Fandango, Rotten Tomatoes, IMDb, and other relevant sources.
- \*Data Preprocessing: Standardize the data format, handle missing values, and address any inconsistencies.
- \*Feature Engineering: Extract relevant features such as movie genre, release date, and user demographics.

Bias Detection: Implement algorithms to detect potential biases in Fandango's ratings, such as inflated scores or favoritism towards certain movies.

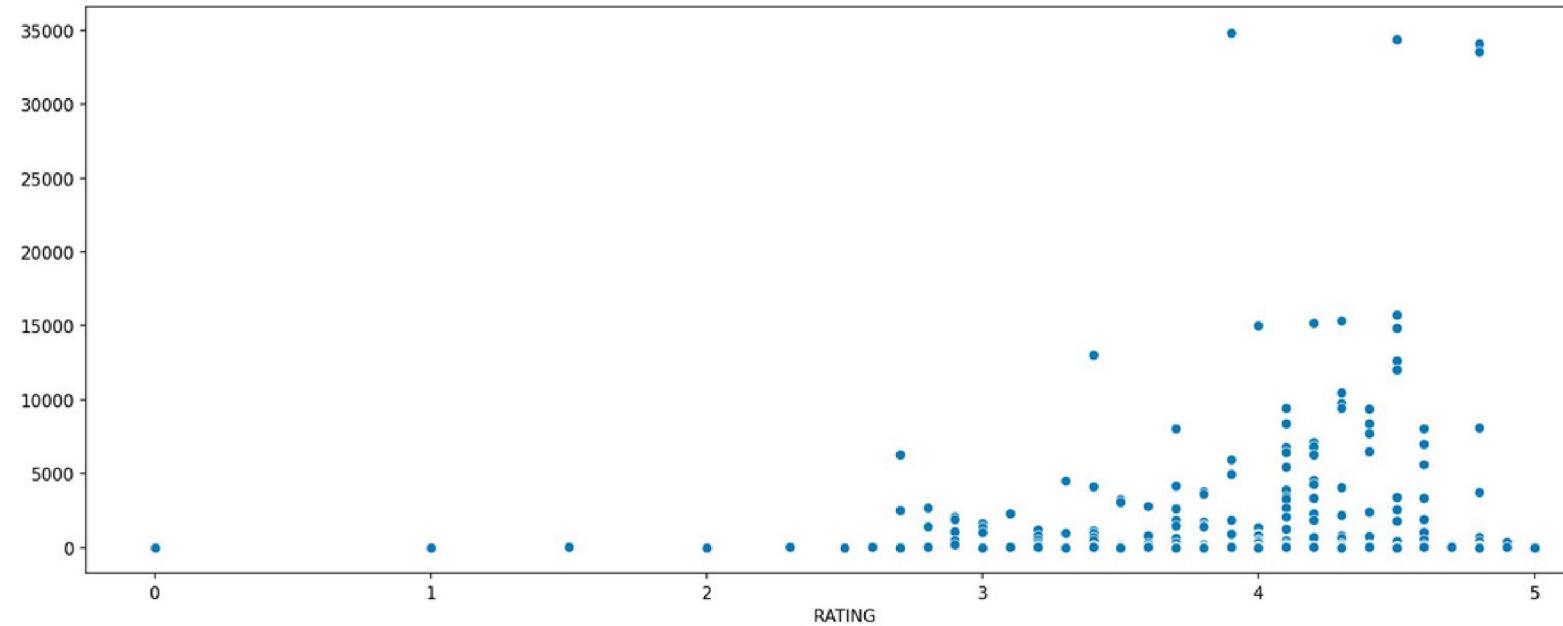
# Algorithm & Deployment – CONT.

## Deployment

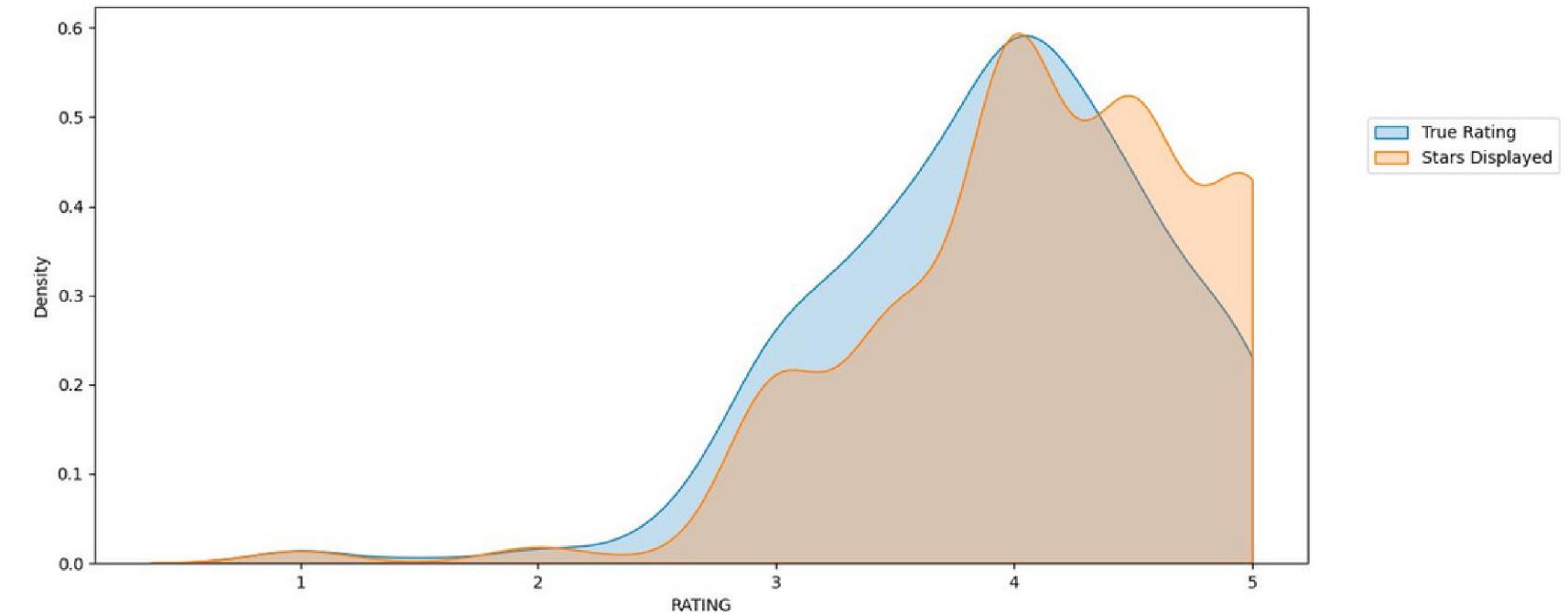
- Web Application: Develop a web-based application where users can input a movie title and receive comparative ratings from Fandango and other platforms, along with analysis insights.
- API Integration: Provide an API endpoint for programmatic access to the analysis results, allowing other applications to integrate Fandango score analysis functionality.
- Cloud Infrastructure: Deploy the application and algorithms on cloud platforms like AWS, Azure, or Google Cloud for scalability and reliability.
- User Interface Design: Design an intuitive user interface for easy navigation and visualization of analysis results.

# Result

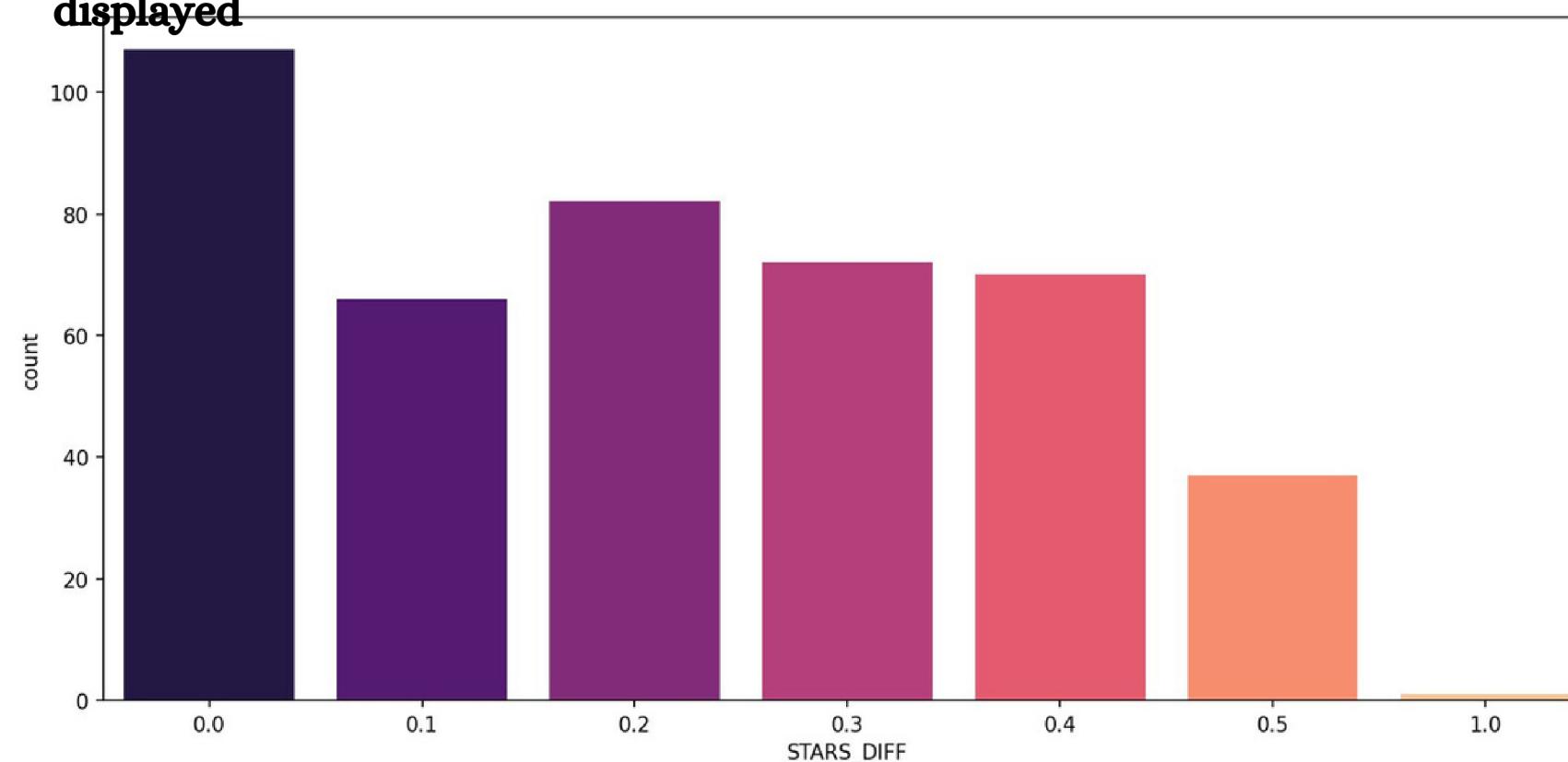
No. of votes a particular rating has got in Fandango Website



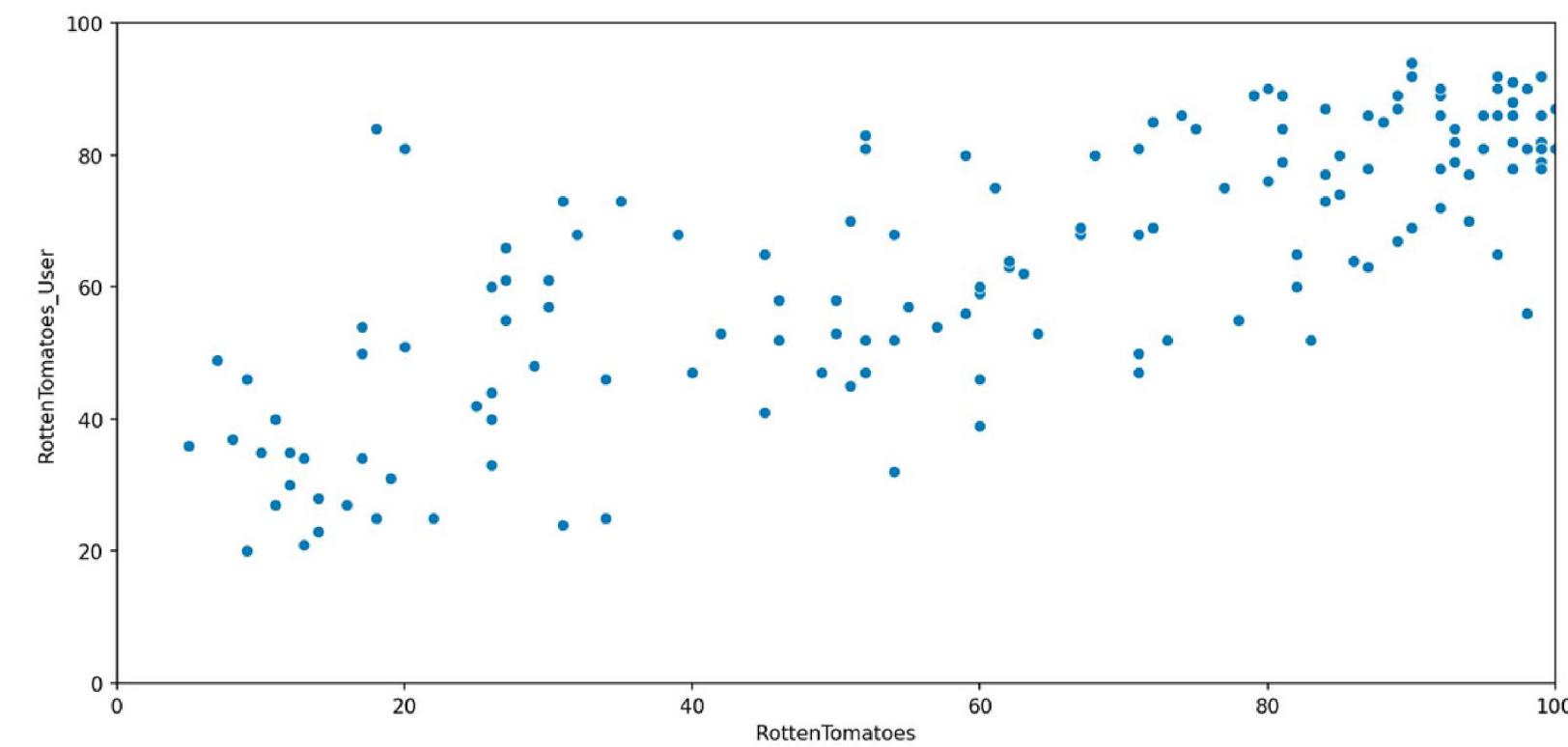
A KDE Plot showing true rating v/s star displayed in Fandango Website



No. of movies with particular star diff. i.e. Diff. between true user and star displayed

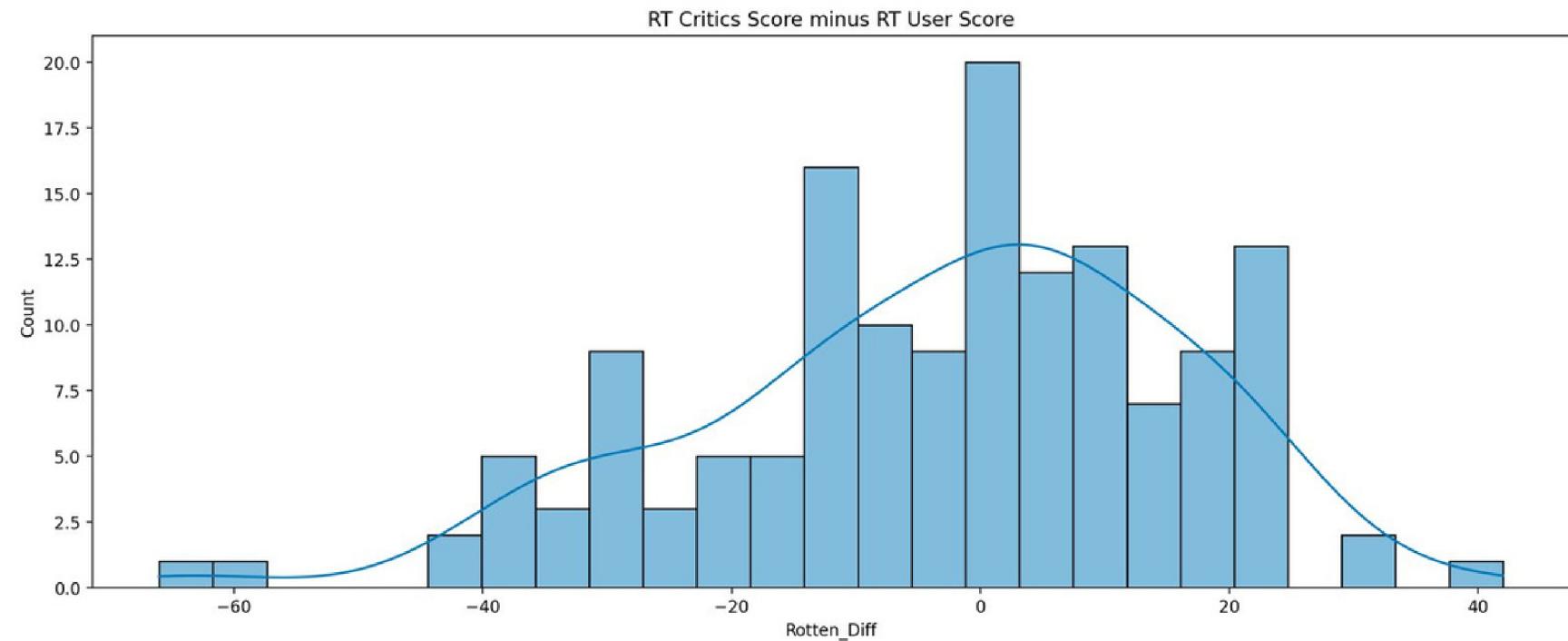


A plot showing relation between Rotten Tomatoes critics reviews and user reviews

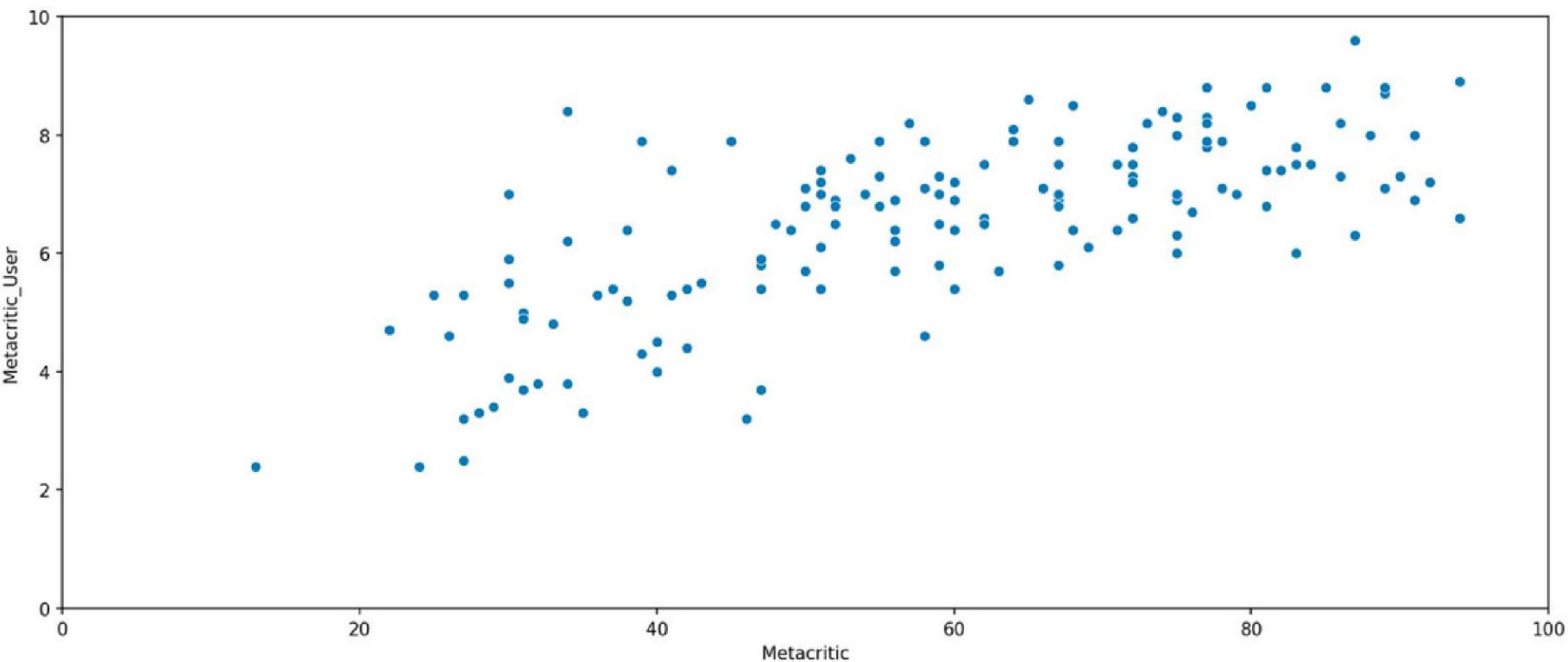


# Result – CONT.

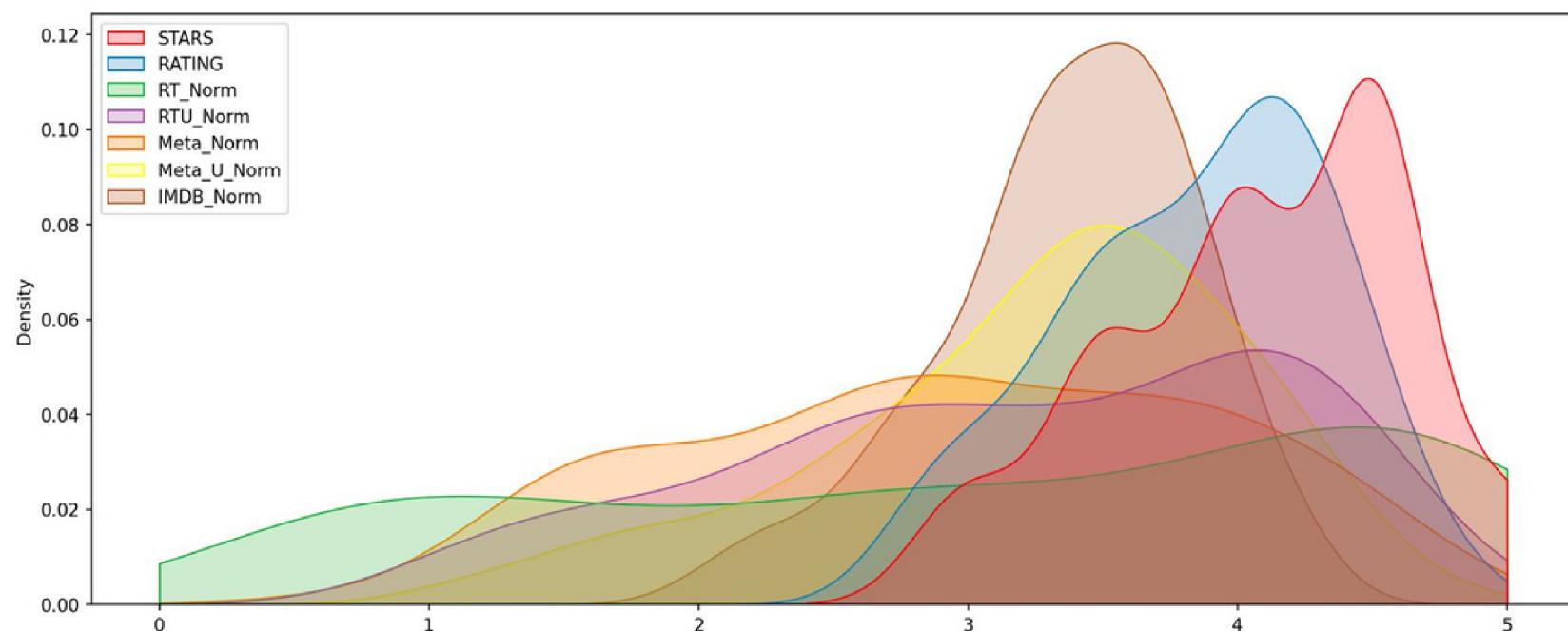
**Difference between Rotten Tomatoes Critics Score and User Score**



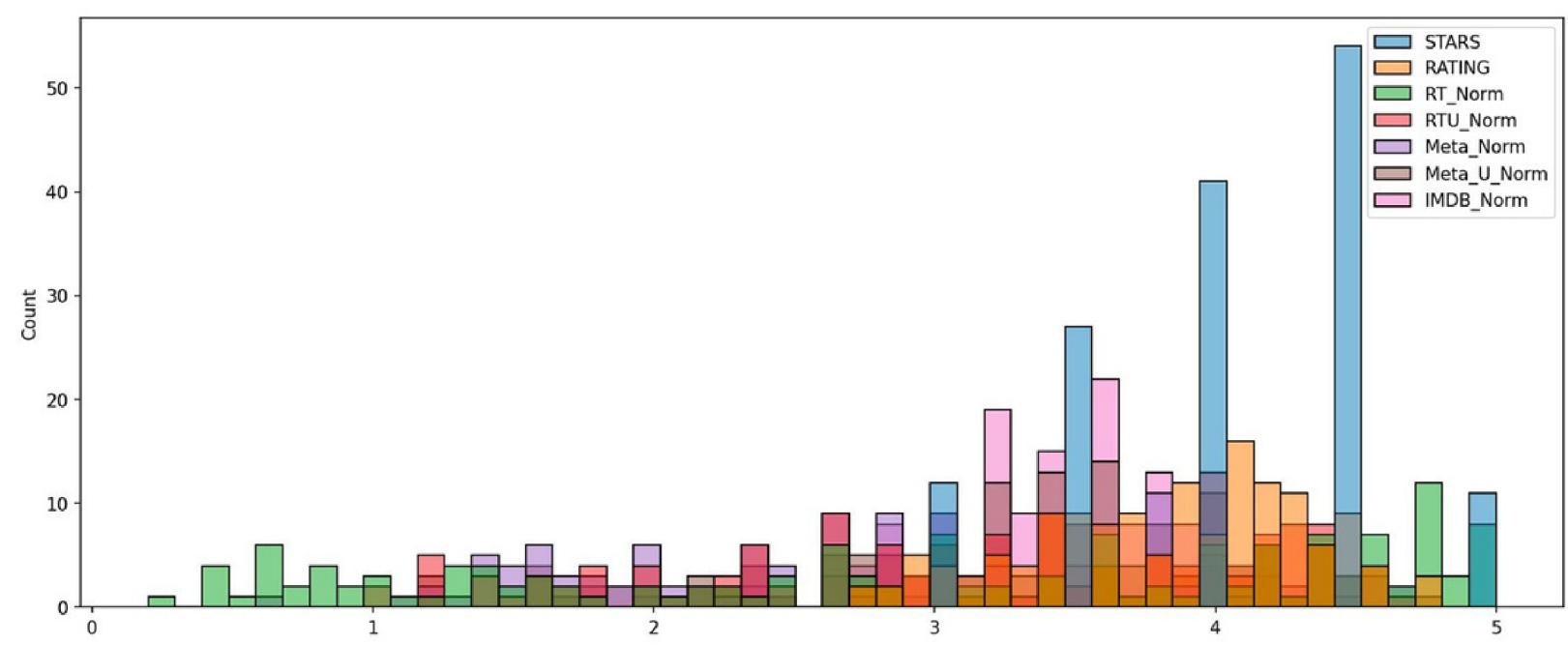
**A plot showing relation between Metacritic rating v/s Metacritic User rating**



**A plot comparing distribution of normalized ratings of other movie websites and Fandango website**

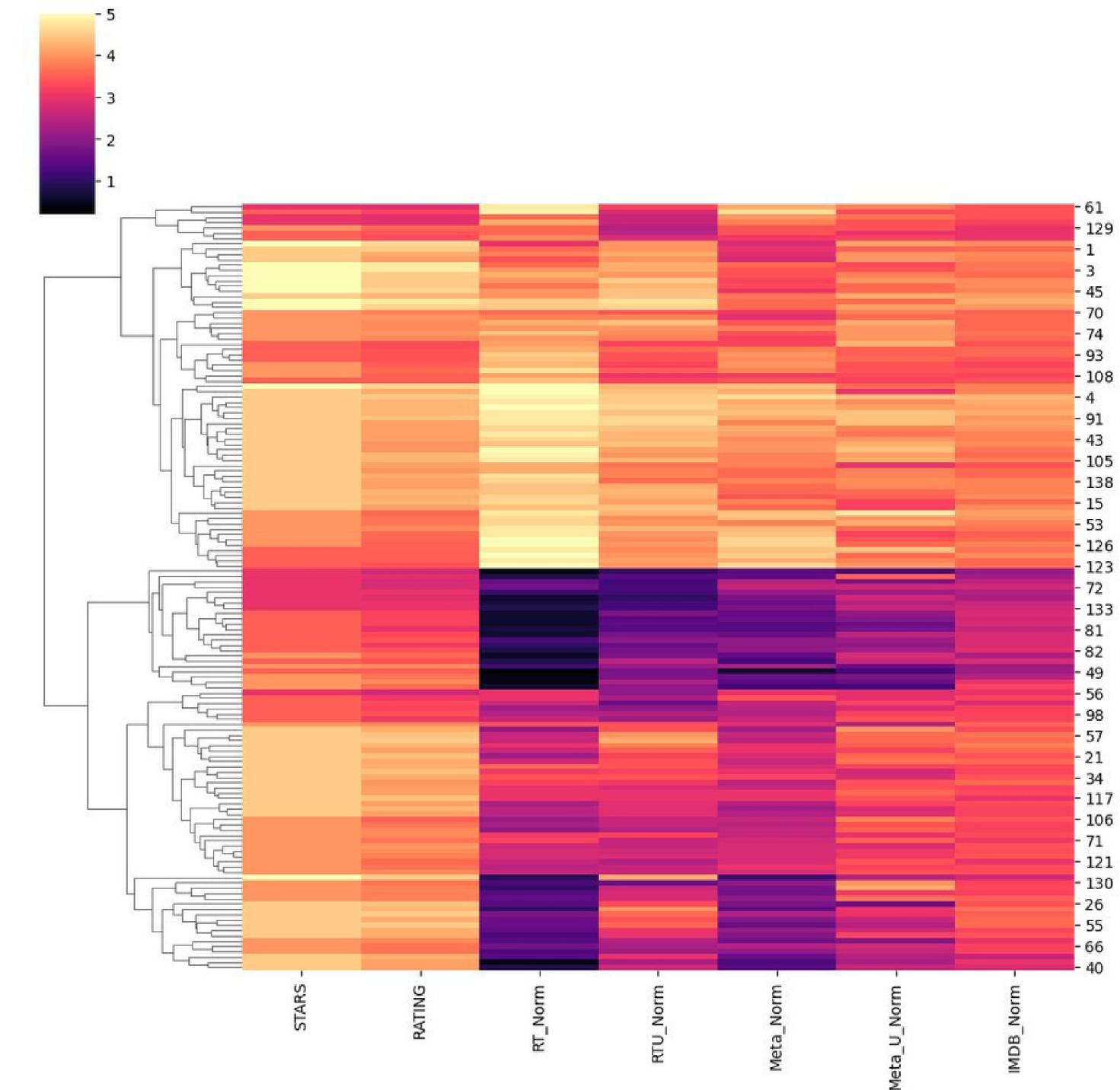


**A histplot comparing all normalized scores**

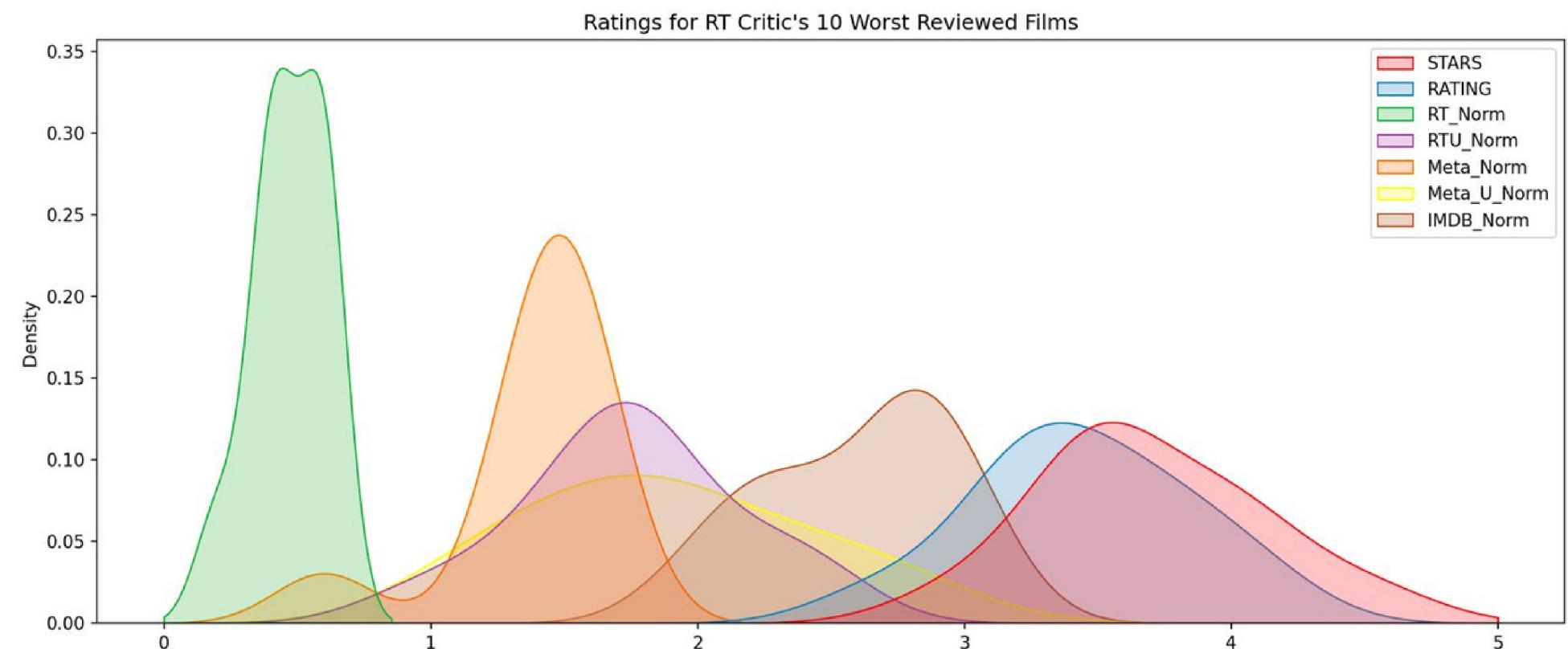


# Result – CONT.

A Clustermap visualization of all normalized scores



Visualization of Distribution of Ratings across all sites for the top 10 worst movies



# Conclusion

In conclusion, the Fandango score analysis provides valuable insights into the accuracy, reliability, and potential biases of Fandango's movie rating system. By comparing Fandango's ratings with those of other prominent review aggregators, such as Rotten Tomatoes and IMDb, we can identify discrepancies and uncover any systemic issues that may impact the credibility of Fandango's scores.

Through a systematic approach involving data collection, algorithm development, and deployment of analysis tools, we can empower moviegoers, filmmakers, and industry stakeholders to make more informed decisions. By fostering transparency, fairness, and accountability in the movie rating ecosystem, we contribute to a more vibrant and trustworthy film industry.

# Future scope

- Advanced Data Analytics: Incorporate machine learning and natural language processing techniques to improve the accuracy of bias detection and sentiment analysis in Fandango's ratings. This could involve analyzing user reviews, critic comments, and social media data to uncover nuanced patterns and trends.
- Real-Time Monitoring: Develop capabilities for real-time monitoring of Fandango's rating system, allowing for rapid detection and response to any anomalies or irregularities in the ratings distribution. This could involve implementing automated alerts and anomaly detection algorithms.
- Ethical Considerations: Explore ethical considerations related to the use of algorithms in movie rating systems, such as fairness, transparency, and accountability. Develop frameworks and guidelines for responsible algorithm design and deployment to mitigate potential biases and ensure equitable outcomes.
- Global Expansion: Expand the scope of the analysis to include international markets and non-English language films, catering to a more diverse audience and reflecting the global nature of the film industry.

# References

- <https://www.kaggle.com/datasets>
- <https://seaborn.pydata.org/>
- <https://matplotlib.org/stable/contents.html>



**THANK YOU**