



Comparative Study of the Youtube Trending Patterns in Current Digital Culture and the Effects of Changes in Ranking Algorithms on the Datasets Over the Last Ten Years

Devendra Kumar Sharma¹, Ankit Porwal²

¹ Assistant Professor, Computer Science and Engineering Department, Sangam University, Bhilwara, India

² Assistant Professor, Computer Science and Engineering Department, Sangam University, Bhilwara, India

Corresponding Author Email: devensharma9312@gmail.com | ORCID: <https://orcid.org/0009-0009-0693-190X>

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Abstract—

In the current era, social media is highly connected using a cross-platform landscape with multimodal content. Every social media platform is accessing other platforms to make better links and improve their rankings in front of the ranking algorithms. In that case, YouTube video titles, content, and captions make a huge impact on user engagement. This paper will discuss about the research on various large datasets and their impacts on the ranking in this digital culture. Popularity is the main concern for most YouTubers. Thus, comprehensive statistical tests reveal different aspects to change the title and captions of a video. Cross-These researches are completed using various tools and techniques, including a fine-tuned BERT classifier. This paper will bridge the different studies on the datasets, including qualitative insights and qualitative rigour. This study shows robust ideas and engagement dynamics for future ranking criteria based on cross-platform and content strategies on YouTube. Mainly, content is not the only entity to improve the ranking worldwide. Key parameters should be managed in a proper manner to improve the ranking based on the ranking algorithms of different social media platforms.

YouTube is a common platform among most social media platforms, and it provides a good idea about the level of content and other parameters. Nowadays, digital culture is based on the ranking algorithms and their parameters. Thus, it is necessary to create an understanding between users and content handlers to optimise all the parameters. This paper will include the basic parameters of research in the last ten years of this digital culture

and consumers. It will provide clarity between the previous and current situation about the changes in ranking algorithms in the social media environment. This paper will discuss the core ranking algorithms and their impacts on the capability of social platforms in the future.

Keywords— YouTube, Ranking Algorithms, Digital culture, datasets and cross-platforms, Neural Networks

I. INTRODUCTION

Internet is a basic need for most of the people worldwide to access social and other platforms in daily life. This paper will summarise the understanding of key constraints of ranking based on dataset analysis and research analysis. Besides, social media platforms have changed their working styles to manage a high

load on the server side. Biasing is not a single solution to handle such a large platform. Thus, it should be handled using a high-level set of rules robustly and reliably. Users are an important factor in this digital culture to improve the ranking of videos and other things on YouTube. According to recent research on content analysis, video ranking is the prime factor for



users on digital platforms. Moreover, everything is attached to the priority of the ranking system, including websites, text, image, audio, video, etc. In addition to that, real users are focused on the suggested videos and audios from social media platforms in the current year. People are focused on specific video searches on social media platforms, including YouTube. Besides, sometimes a critical issue will make a huge impact on the ranking of shorts or videos as well as website ranking. Thus, this paper has analysed the research analysis of datasets of different social media platforms. Before uploading any video, users should first check all the parameters that can affect their ranking. There are a few things to manage in the video to get a high rank on the social media platforms, including title, caption and visual elements. Besides, natural language processing makes a huge impact on searches on social media and search engines. Trending keywords form the basis of searching for content. Content is the basis of ranking on social media platforms. Besides that, titles create a new capability to access that video across platforms as well. This paper will recommend a few parameters to improve the ranking of a video on YouTube and other social media platforms. In addition to such research, "Up-Next" recommendation is a new challenge in front of channel handlers and social media platforms, including YouTube, Instagram, Facebook, Twitter, and others. It is based on the title and captions, as it has summarised information about the content. Neural networks have changed the core concepts of ranking algorithms as it provides better outcomes.

II. LITERATURE REVIEW

Based on social media research, ranking is the first parameter of YouTubers that is a prime factor of earning in this digital culture. Cross-platforms make a new challenge in front of search engines. Ranking is not a linear process in this digital era, as a large amount of content is uploaded every second. YouTube's ranking algorithms have changed over the past 10 years, moving from simple metadata and raw view counts to deep neural networks, watch-time optimisation, and contemporary AI watch-history clustering. However, it is based on the new parameters, including Artificial Intelligence (AI). YouTube officially retired the universal "Trending" page in July 2025 as a result of this evolution, replacing it with fragmented, category-specific charts and highly customised feeds. In addition to that, ranking criteria have been changed over the last two decades. From the

year 2012, many criteria have been changed, such as watching time, visiting, and sharing[1].

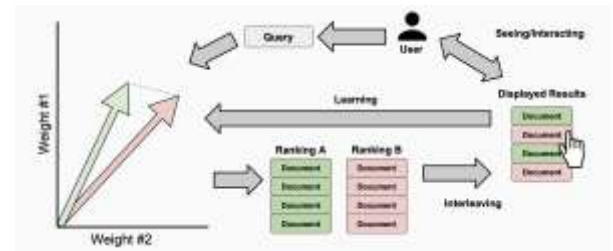


Fig.1 One iteration of the Duelling Bandits Gradient Descent (DBGD) algorithm. [2]

The Duelling Bandits Gradient Descent (DBGD) algorithm is focused on various parameters to provide a better rank worldwide. The digital era is full of changes based on various things, including hardware, software, and other innovative ideas. Therefore, social media platforms should focus on these changes to manage upcoming demands in the social market. Input is a key concern in the implementation of technologies and algorithms. However, a few chances for chaos due to unorganised conditions. Thus, ranking algorithms have been designed for managing a fair distribution among all the subscribers and handlers based on their efforts and management. In addition to that, the dataset(2022-2025) has been changed to adopt new datasets and ranking algorithms. It makes a huge impact on the ranking of current and old websites and channels, which is bad and good for different kinds of users[3]. Google and other platforms have done a huge amount of research on the current situation of datasets and their impacts on the distributions of credits. Content is the main key to improving likes and shares, but it is also based on the ranking algorithms to make a space in the recommendations of online users on the internet[4]. Thus, ranking algorithm designers have a big role in the ranking of channels on social media platforms. They have considered many parameters in the selection of videos in recommendations, including users' feedback and interest as well[5].

Table I: The 2025 Google Algorithm Ranking Factors

Factor	Weight
Consistent Publication of Satisfying Content	23% ▲
Keyword in Meta Title Tag	14% ▼



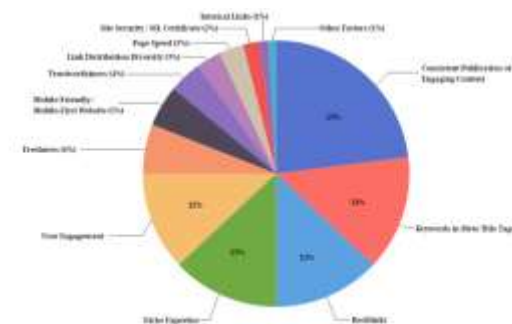
Backlinks	13%
Niche Expertise	13%
Searcher Engagement	12% ▲
Freshness	6%
Mobile-Friendly / Mobile-First Website	5%
Trustworthiness	4%
Link Distribution Diversity	3%
Page Speed	3%
Site Security / SSL Certificate	2%
Internal Links	1% ▼
Keyword in Meta Description Tags + 23 Other Factors	1%

III. METHODOLOGY

This paper included a qualitative approach to analyse the datasets and ranking algorithms working on cross-platforms. Most of the things work around four factors, including watch time, audience retention, interactions and Click-through Rate (CTR). Therefore, it is compulsory to handle all these parameters in a proper manner. However, there are some minor changes that always exist in this procedure. We have identified that viewer engagement is a necessary constraint in this whole process. According to CTR, we consider the video in the recommendations[6]. Moreover, viewer history and context matter a lot at the initial stage of ranking a video. In addition to that, how well the title, description, and Meta tags are considered to match the search. It is like demand and supply in a few cases on online platforms. No doubt quality is at the top of all the considerations. Thus, a video should have clear audio, accurate information, and sharp video to consider in a recommendation, especially for trending topics. Besides, based on the research, CTR should be improved to improve other parameters such as

increasing audience retention. This will make a huge change in the recommendations of your content on cross-platforms as well[4]. We found that everyone has a question in their mind, which is “how do videos go viral?” Thus, focus on these parameters to manage all the things in a better manner. The core audience will be considered for recommendations of a video always. Therefore, YouTubers should be focused on their core audience. Moreover, your niche is considered for recommendations, such as photography, research and development. The ranking algorithms are focused on the adjacent to adjacent niches to recommend that video. It is not a broadcast process as we know. Therefore, it is in a repeat mode to start performing on the social media platforms[5].

Fig.2.The 2025 Google Algorithm Ranking Factors[6]



Besides, a good understanding is required to design a better ranking algorithm or changes in current ranking algorithms[7].

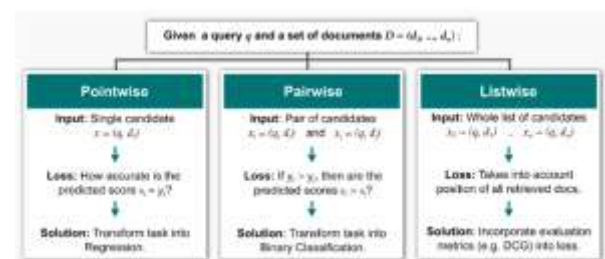


Fig.3.Flavours of supervised learning to rank algorithms[2].

IV. RESULTS AND DISCUSSION

Currently, video hits and page ranks matter a lot for recommendations. A comparative analysis of the ranking algorithms and datasets has shown some considerable changes in the upcoming ranking algorithms. We should consider basic parameters to provide a better platform for the new videos. Moreover, ranking algorithms are not only based on hits and page ranks, but they consider most of the



parameters based on their upload and download criteria. This study has analysed that the number of hits makes a huge impact on the ranking of a video. People are not considering these factors and blame the social media platforms[7]. However, YouTubers are well-known about these changes. So creating a new video or improving the rank of an existing video are both different[6].

Table II: Comparison table

Algorithm	Page Rank	HITS
Main Technique	Web Structure Mining	Web Structure, Content Mining
Methodology	Score of Page at time of index	Hubs and Authorities of relevant Page
Input	Back Links	Content, Links
Relevancy	Less	More
Result Quality	Medium	Less than PR
Time	$O(\log n)$	$< O(E G)$
Importance	High, Back Link are considered	Moderate, Hub and Authority score are used
Limitation	Result at time of indexing not at query time	Topic drift and efficiency problem

Time is the key to improving the ranking in many cases. Thus, users should focus on quality and quantity. It is considered in the ranking of a video on social media[7].

V. CONCLUSION

In conclusion, ranking algorithms are based on various parameters, and it's a core mathematical modelling that considers a few parameters, including video quality, CTR, and watching time of the video. Thus, we can simply say that the focus is on the text and quality of video that is based on the current parameters. Besides that, it must be matched with your niche. This paper has considered various parameters for comparative study of ranking algorithms based on the core parameters for new videos. Finally, ranking algorithms are focused on the new datasets and frequent changes in user demands. In future, ranking algorithms will focused on other parameters as well.

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