

**Understanding Social Media Dynamics: A Big Data Analytics Framework for Cross-Platform Content Analysis**

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## Annotated Bibliography

Ben-David, A., Meyers, O., & Neiger, M. (2024). *How social memory works on social media: A methodological framework*. *Memory Mind & Media*, 3. <https://doi.org/10.1017/mem.2024.18>

It is a study about how collective memory is shaped and formed across social media platforms, and how a methodological framework is used for analyzing content on these platforms. The authors have highlighted the influence of social media platforms considering platforms like Facebook and Twitter to discuss how things unfold, analyzing the behaviour, user engagement patterns to learn digital shaping of platforms. A large-scale data collection is combined with platform specific analysis to study how the concept supports the idea of social media content analysis across platforms and overtime offering user behaviour insights and rhythm on how platform influences important components for understanding social dynamics in big data. It examines the necessity of cross platform analysis and social media dynamics to learn how information evolves across various platforms. The display of methodological complexities which are involved in the trends and interactions on cross platforms and reinforcing the importance of applying big data techniques to get deep insights into social behaviour.

Charalampous, A., Djouvas, C., & Christodoulou, C. (2024). *DataPoll: a tool facilitating big data research in social sciences*. *IEEE Transactions on Computational Social Systems*, 1–14. <https://doi.org/10.1109/tcss.2024.3506582>

This article tells us about DataPoll which is a platform to make bigdata

analysis easy by helping to collect the data, simplify the data, analyze it and visualize the social media data. The platforms being used are Twitter, YouTube, Reddit for the research. They are studying to analyze social media dynamics and platform content analysis and provide a structured approach to analyze data in real time from various platforms. The tool visualizes user interactions and aggregates it to get trends, how users engage of a big data analytics framework to know the user's online behaviour. It addresses the challenges like ethical concerns, data fragmentation, restriction on platforms and how it affects the analysis. It tells us how large-scale social media can be integrated and interpreted to gain valuable insights to leverage big data tools to enhance the research in social media platforms, the user behaviour analysis and various patterns of digital ecosystem.

George, D., & Baskar, D. (2024). *Leveraging big data and sentiment analysis for actionable insights: A review of data mining approaches for social media*. Zenodo. <https://doi.org/10.5281/zenodo.13623777>

Authors have discussed how big data and sentiment analysis can be used together to extract meaningful data and insights from the social media. They have used various approaches like data mining, machine learning and technique like lexicon-based analysis to process user generated content across various networks like Twitter, Facebook, YouTube. The challenges posed in this paper are high volume of data, handling real time data and data which is in the form of text, images and videos. They have explored practical applications in public health, marketing and security areas which signifies the importance of data driven decision making in these industries. The paper highlights topics like sentiment analysis through user engagement which is crucial to understand the trends through online interactions. It also explains the need for framework which is efficient and scalable

to manage the complexity of this social media data. This is related to my paper as it supports the analysis of social media and gives down a structured parts of how collecting, processing and interpretation of large-scale data depending on the user behaviour using advance data mining tools. It also illustrates the integration of machine learning and big data analysis in real time to improve strategic social media trends.

Matassi, M., & Boczkowski, P. (2021, January 1). *An Agenda for Comparative Social Media Studies: The value of understanding practices from Cross-National, Cross-Media, and Cross-Platform perspectives*. Matassi | International Journal of Communication.

<https://ijoc.org/index.php/ijoc/article/view/15042>

This paper describes the use of social media platforms over the world, what type of media and platforms are used and its importance. It states the interconnection between user behaviour and how it varies depending on where you are. It displays an in-detail study about social media platforms and how focusing on a single thing will help you gain deep knowledge and content which helps us understand human behaviour and how it is dependent on various cross platforms, cross media and cross-national perspectives. It also suggests that how the study and understanding of the social media platforms features, languages and the history can help in the research to help analyze the data and get results which are more accurate. This research paper is relevant to my study as it gives us a broader understanding of social media works across different platforms and the support to get more accurate data content analysis which is the main part of big data and its points towards social media.

Ponugoti Kalpana, Kavya Malleboina, Musku Nikhitha, Patanm Saikiran, &

Kumar, S. N. (2024). *Predicting Cyberbullying on Social Media in the Big Data Era Using Machine Learning Algorithm*. 1–7.

<https://doi.org/10.1109/icdsns62112.2024.10691297>

The writers concentrate on applying machine learning algorithms to identify and forecast instances of cyberbullying on social media. they are using various methods for gathering, handling, and evaluating social media data to spot hostile or damaging online conduct on social media data. To increase detection accuracy, the article identifies several difficulties which includes managing massive amounts of data, removing noise, and choosing certain features. It talks about how big data and artificial intelligence can be used to identify patterns in user-generated material and identify potentially dangerous cross-platform interactions and how this information can be used to study further trends. Several text categorization techniques are looked at which demonstrate how sentiment analysis and natural language processing (NLP) help spot trends in cyberbullying. The work emphasizes on the necessity for responsible and objective machine learning models while addressing ethical issues with bias and data privacy in AI-based detection systems.

Understanding user behaviour on social media is greatly aided particularly in fields like content control and extensive behavioural analysis. Because it offers insights into big data-driven user behaviour analysis and shows how machine learning and data analytics can be combined into a scalable framework to identify harmful trends, guarantee ethical AI usage, and improve content monitoring across various social media platforms, this paper aligns with my research.

Shi, B., Huang, W., Dang, Y., & Zhou, W. (2024). *Leveraging social media data for pandemic detection and prediction*. Humanities and Social Sciences

Communications, 11(1). <https://doi.org/10.1057/s41599-024-03589-y>

The authors talk about how sentiment analysis and big data combine to provide insightful information from social media. They investigate different methods for processing user generated content on sites like Facebook, YouTube, and Twitter, such as lexicon-based analysis, data mining, and machine learning. The study handles important issues including maintaining various content forms which including text, photos, and videos, processing data in real-time, and handling massive data quantities. They have explained about the useful applications in marketing, security, and public health demonstrate how crucial data-driven decision-making is in these fields. The study in this paper places a strong emphasis on sentiment analysis through user interaction, which is essential for comprehending new trends and online interactions. To manage the increasing complexity of social media data it also focuses on the necessity of a scalable and effective framework. This would be helpful in my study due to its close relevance on helping social media analysis by employing a systematic method for gathering, processing, and analyzing vast amounts of user activity data utilizing sophisticated data mining techniques. It also shows how big data analytics and machine learning can be integrated in real-time, allowing for a more data-driven and strategic comprehension of social media.

Stiebe, M. (2024). *Social big data mining for the sustainable mobility and transport transition: findings from a large-scale cross-platform analysis*. European Transport Research Review, 16(1). <https://doi.org/10.1186/s12544-024-00651-3>

Social media discourse on sustainable mobility and transportation transitions

is examined by the authors using big data analytics and cross-platform content analysis in the following paper. In order to examine how the public views sustainable transportation, they investigate methods for gathering, processing, and evaluating social media data from sites like Instagram and Twitter. Issues such as managing platform-specific differences in online conversations, collecting massive amounts of data, and guaranteeing data accuracy are looked into. Studies on how sentiment analysis, image recognition, and hashtags can be used to glean information from user-generated content is done. Through the use of machine learning techniques such as text analysis and object detection using OpenCV, the study shows how digital discourse may be methodically examined. The incorporation of the Multi-Level Perspective framework highlights the importance of Digital Social Media Discourse in sociotechnical transformations and how significant contribution it is. The study emphasizes how crucial cross-platform analysis is to overcome the drawbacks of single-platform research. In line with my research, this paper supports social media research driven by big data and demonstrates how social media analytics and machine learning can be monitored. It offers a methodology for examining online behaviour trends across digital ecosystems, offering insightful information for public participation and sustainable transportation policy.

Sun, C. (2025). *Analyzing user behavior in social networks using big data:*

opportunities, challenges, and future directions. *Academic Journal of Science and Technology*, 14(1), 75–79. <https://doi.org/10.54097/3svgb483>

This article helps to understand a framework for user behaviour on social media networks using the big data technology. It explores various methods to extract insights from vast amount of data which is generated by the social media

and discusses the use of handling real time processing data and its dynamic nature where the data is evolving continuously across multiple platforms. Platforms like Twitter and Facebook are taken as an example which produce large amount of data which is diverse and fast paced. They have used various techniques like machine learning, graph analytics, sentiment analysis, behaviour trends, data noise to study the data and analyze it. It addresses the challenges faced like data security, privacy concerns, ethical concerns and misinformation and the need for methodologies for such a large data and its analysis. The article focuses on behaviour analysis using big data tools that support predictive modelling, gaining valuable insights on frameworks, sentiment analysis to understand user perspective and behavioural patterns. It is highly relevant to my paper as it addresses the aspects of user behaviour on social media platforms, how to analyze the functions and the emerging trends from the data to leverage data driven decision for decision making using big data tools.

Wang, A., Dara, R., Yousefinaghani, S., Maier, E., & Sharif, S. (2023). *A review of social media data utilization for the prediction of disease outbreaks and understanding public perception*. *Big Data and Cognitive Computing*, 7(2), 72. <https://doi.org/10.3390/bdcc7020072>

The article emphasizes on utilization of the vast social media data from big platforms like twitter and further predict the infectious diseases and its outbreaks during major health crisis. It is based on the real time data collection from social media applications which concludes that using such platforms can help the health experts to gather information faster than the old traditional ways which supports in early alarms or warnings in health decisions. It always states how sentiment shared by people online helps to understand public opinions and reactions to health-related



issues and rules to track the pattern. Along with that a huge problem with current data which is its security and quality and the challenges of working with social media data. This article is highly relevant to my paper as it displays strong challenges faced on cross platform data analysis and how to leverage the big data and tools to understand the current issues by analyzing the user behaviour on social media and its trends.

Wang, W. Y. C., & Wang, Y. (2020). *Analytics in the era of big data: The digital transformations and value creation in industrial marketing*. Industrial Marketing Management, 86.

<https://doi.org/10.1016/j.indmarman.2020.01.005>

This article is the study of how big data analytics is helping to transform the digital marketing era and its operations in the wide industrial markets. It explains the businesses and their process to gather the data which is in huge amount and then process this large volume of data from various sources like social media, through customers, IoT devices etc. Moreover, the study also explains how big data insights can help in decision making and improve customer understanding to create business value. It has vast range of ideas on how data integration works of various data sources and applying those in the real time analytics to relate and analyze closely how the social media content across various platforms works. It also emphasises on the user behaviour analysis with the use of structured and unstructured data in big data frameworks. This is relatable in understanding how social media across various platforms has influence on the data generated and how it can be used to the benefit the industry.