# THE FUTURE OF BIG DATA ANALYTICS AND ITS PROGRESS

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### **Abstract**

Big data streams are now widespread because real-time applications that generate enormous amounts of data quickly have proliferated during the past 10 years. Big data is a treasure trove of vast quantities of data. Big data is commonly used in conjunction with other current buzzwords like data science, artificial intelligence, deep learning, and machine learning. Big data has a very promising future because of the demand for data across many technical industries. A massive amount of data has been produced as a result of the COVID-19 global epidemic. Big data analytics is helpful for evaluating, maintaining, and archiving information about COVID-19 patients for later use during the pandemic phase. Big Data Analytics (BDA), a growingly important technology, can significantly enhance sustainable tourism in terms of destination selection, traveller satisfaction, and the quality of travel experiences. Streaming Big Data is the term used to describe data that needs to be saved, processed, and analysed and that is continuously generated from various data sources, including Internet of Things (IoT) devices. The article provides information on - Big data analytics techniques in social media, COVID-19 Pandemic in the New Era of Big Data Analytics, Big data analytics and sustainable tourism, Predictive big data analytics for supply chain demand forecasting, Streaming Big Data Analytics, Big data stream analysis and Big Data Analytics in Crypto Currency.

Keywords: Big Data, Streaming Big Data, Predictive Big Data, Sustainable Tourism

#### I. Introduction

Every business needs to set up a system for gathering data. Finding patterns, trends, and correlations in enormous amounts of raw data in order to assist data-driven decision-making is known as big data analytics. A technique for examining the huge dimensions of organized, unstructured, and semi-structured data sets is known as "Big Data Analytics."



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Healthcare organizations, like many other industries, are producing data at a great velocity that brings both many benefits and difficulties at the same time. The fundamentals of big data, including its administration, evaluation, and potential applications, particularly in the healthcare industry. Syndicate can deal with extreme uncertainties like those brought on by the current COVID-19 outbreak by using big data analytic tools.

Social media is used extensively by people of all ages. The most important use of big data in the area of social media is big social data, or information obtained from social networks. For the study of real-time application scenario, big data batch processing is insufficient. The majority of the data generated in a real-time data stream requires real-time data processing. A sizable volume of data must be processed quickly in order for organisations or enterprises to be able to respond in real-time to changing situations.

### **II.** Literature Review

YEAR	AUTHOR	TITLE	CONTENT
2021	Sepideh Bazzaz	Big data analytics meets social	Role and use of big data analytics
	Abkenar Mostafa	media: A systematic review of	in social media platform
	Haghi Kashani	techniques, open issues, and	
	Ebrahim Mahdipour	future directions	
	Seyed Mahdi Jameii		
2021	Jie Sheng, Joseph	COVID-19 Pandemic in the	Big data analytics tecnique for
	Amankwah-Amoah,	New Era of Big Data	examine management issues
	Zaheer Khan and	Analytics: Methodological	arising from the global pandemic
	Xiaojun Wang	Innovations and Future	
		Research Directions	
2020	Agrawal, Rohit,	Big data analytics and	Big Data Analytics concepts and
	Vishal A. Wankhede,	sustainable tourism: A	tools in tourism to help ensure
	Anil Kumar, Sunil	comprehensive review and	improved tourist satisfaction.
	Luthra, and Donald	network based analysis for	
	Huisingh	potential future research	



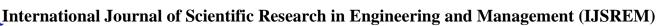
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2020	Seyedan, Mahya, and	Predictive big data analytics	Influence of Big Data Analytics in
	Fereshteh Mafakheri	for supply chain demand	the field of supply chain and
		forecasting: methods,	demand forecasting.
		applications, and research	
		opportunities	
2019	SK. Wasim Akram ,	Streaming Big Data Analytics-	Solving the current challenges in
	M.Varalakshmi ,	Current Status, Challenges and	streaming using big data
	J.Sudeepthi	Connection of unbounded data	techniques
		Processing platforms	
2019	Taiwo Kolajo,	Big data stream analysis: a	Systematic literature review about
	Olawande Daramola	systematic literature review	big data stream analysis
	& Ayodele Adebiyi		

## III. BDA in Various Fields

- Based on the analysis techniques used, there are two basic groups for big data analytic approaches in social networks. both network-oriented and content-oriented strategies.
- Healthcare firms, like many other industries, are producing data at a great velocity that brings both many benefits and difficulties at the same time.
- Big data analytics methods already in use can be used to advance academic research and inform managerial and governmental decisions regarding global pandemics (Covid-19).
- An enormous amount of data has been produced by the COVID-19 global epidemic. Big data analytics
  is helpful for evaluating, maintaining, and keeping data on the COVID-19 patient during the pandemic
  era for later use.
- BDA was included in sustainable tourism to create a framework. For better visitor satisfaction,
  hospitality service providers should adopt BDA concepts and methods and educate themselves on the
  advantages of employing BDA in sustainable tourism.
- The survey's predictive BDA applications for demand forecasting in the supply chain. Several methods and their uses in supply chain management, including time-series forecasting, clustering, K-



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nearest-neighbours, neural networks, regression analysis, support vector machines, and support vector regression

- In order to analyze huge data streams, several different techniques and technologies have been used.
   Numerous alternative big data streaming solutions have been developed by the open source community and business technology companies in response to the rising need for big data streaming analytics.
- Scalability is a significant obstacle in big data streaming analysis. The big data stream is expanding exponentially at a rate that is far quicker than that of the computing power. Although Moore's law is followed by processors, data size is growing exponentially. In order to deal with the ever-increasing size and complexity of data, research efforts should focus on developing scalable frameworks and algorithms that will support data stream computing mode, effective resource allocation strategy, and parallelization challenges.
- Big data analytics can assist users of cryptocurrencies better understand the market's future and the value of the thousands of digital currencies they can buy and sell, which can help solve many of these problems. This is so that cryptocurrency investors can utilise data analytics tools to identify trends by examining previous data and use them to make decisions about the direction of the cryptocurrency market.
- Big data development is complicated by the diversity of big data. The majority of big data benchmarks now in use are intended to assess a particular system or architecture.
- For instance, GridMix and PigMix are appropriate for MapReduce Hadoop systems, while HiBench is excellent for evaluating Hadoop, Spark, and streaming workloads.

# **IV.** Algorithm Techniques

S.no	Topic	Year	Algorithm / Methodology /
			Implementation
1.	Big data analytics meets social	2021	ML algorithms to protect cyber-attacks. 3
	media: A systematic review of		machine learning algorithms, namely
	techniques, open issues, and future		Logistic Regression, Support Vector
	directions		Machine, and Naïve Bayes for classifying
			eight types of events and Modified
			Threshold-based Cuckoo Search Algorithm



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	1	Т	La rmaga ()
			(MTCSA) was applied as a heuristic search
			algorithm for weight
			optimization.
2.	COVID-19 Pandemic in the New	2021	machine learning algorithms to build
	Era of Big Data Analytics:		complex models on very large datasets to
	Methodological Innovations and		predict future outcomes and Biological
	Future Research Directions		evolution-inspired algorithms for global
			optimization.
3.	Big data analytics and sustainable	2020	SLR (Systematic Liteature Review)
	tourism: A comprehensive review		METHODOLOGY
	and network based analysis for		
	potential future research		
4.	Predictive big data analytics	2020	Predictive big data analytics for supply
	for supply chain demand		chain demand forecasting: methods,
	forecasting: methods, applications,		applications, and research opportunities
	and research opportunities		
5.	Streaming Big Data Analytics-	2019	tools and technologies employed Hadoop,
	Current Status, Challenges and		Spark and streaming workloads, GridMix
	Connection of unbounded data		and PigMix are for MapReduce Hadoop
	Processing platforms		systems. BigBench is suitable for
			benchmarking Teradata Aster DBMS,
			MapReduce systems, Redshift database,
			Hive, Spark and Impala
6.	Big data stream analysis: a	2019	to also and to should also seemble at family 1.
	systematic literature review		tools and technologies employed for big data
			stream analysis are Shape of the data, Data
			access, Availability and consistency
			requirement, Workload profile required,
			Latency requirement



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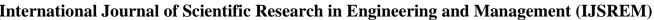
## V. Conclusion

The information on the potential application of big data analytics is systematically reviewed or gathered in this article. Additionally, this article makes clear references to the impact and potential applications of big data analytics in industries including healthcare, social media, and others. Along with the proposed methodology, many big data analytics methodologies and procedures are also being explored. This article offers a structured overview of social media big data analytics. Big data analytical methodological advancements can be used to investigate management concerns resulting from the COVID-19 worldwide pandemic. This page provides information on the advantages of employing BDA in sustainable tourism for travelers, the travel industry, and hotel and hospitality service providers.

In the future, computational physics will continue to make extensive use of big data using predictive analytics, high-speed computing systems, machine learning, and other techniques. By utilizing these big data-related systems, engineers and scientists have been able to more readily develop cars, planes, and other vehicles. Additionally, they have improved their ability to forecast both the everyday weather and natural calamities. Nearly since the discipline of computational physics was founded, big data analytics has had an impact.

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