3.3.3Number of books and chapters in edited volumes/books published and papers published in national/ International conference proceedings per teacher during the year (5)

3.3.3.1 Total number of books and chapters in edited volumes/books published and papers in national/international conference proceedings. year wise during year

International Conference

S. No.	Name of Teacher	Title	Publication	Date	Page No.
1	Dr. Diwakar Tripathi	Web User Profile Generationand DiscoveryAnalysis using LSTM Architec	IEEE, 2 nd International Conference on Technological Advancements in Computational Science (ICTACS)	July 2022	03
2	Dr. Diwakar Tripathi	Malware Detection Classification using Recurrent Neural Network	IEEE, 2 nd International Conference on Technological Advancements in Computational Science (ICTACS)	July 2022	04
3	Nisha Vyas	A study of Corporate Insolvency Resolution Process of Bhushan Steel Ltd. with reference to Insolvency and Bankruptcy Code 2016	International Journal for Multidisciplinary Research	Jan 2023	05
4	Dr. Suhashini Chaurasia	Election Result Prediction using Twitter Data Sentiment Analysis by Natural Language Processing and Machine Learning	International Conference in Computer Engineering, Communication Systems ad Business Development	26 and 27 May 2023	06
5	Deepali Bhende	Analysis Machine Learning Techniques for Diagnosis of Thyroid Disease	International Conference in Computer Engineering, Communication Systems and Business Development	26 and 27 May 2023	07

			(Best Paper presentation award)		
6	Dr. Diwakar Tripathi	Revolutionizing Business and Society: The Transformative Impacts of Data Science	International Conference in Computer Engineering, Communication Systems and	26 and 27 May 2023	08
			Business Development		
7	Mansi Nagalkar	Smart Authentication and Monitoring by Face Recognition to Maintain the Attendance Record Using Deep Learning	International Conference in Computer Engineering, Communication Systems and Business Development	26 and 27 May 2023	09
8	Dr. Suhashini Charuasia	International Conference of Advanced Communication and Machine Intelligence	Springer Book Chapter	9 to 11 Dec 2022	10
9	Deepali Bhende	Performance Evaluation of Machine Learning Methods for Thyroid Prediction	IEEE, 11 th International Conference on Emerging Trends in Engineering and Department of Electronics Engineering	28 to 29 April 2023	11

National Conference

S. No.	Name of	Title	Publication	Date	Page
	Teacher				No.
1	Dr. Suhashini	Twitter Data	108 th Indian Science	3 to 7 Jan	12
	Chaurasia	Sentiment Analysis using various	Congress	2023	
		Machine Learning			
		Classifiers			
2	Mansi Nagalkar	Using Text Mining	Research	27-28	13
		for Business	Innovations in ICT	March	
		Analytics	and Computing	2023	
			Technologies		

International Conference

1. Dr. Diwakar Tripathi: IEEE 2nd International Conference on Technological Advancement in Computational Science

2022 2nd International Conference on Technological Advancements in Computational Sciences (ICTACS)

Web User Profile Generation and Discovery Analysis using LSTM Architecture

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Abstract - In today's technology-driven world, a user profile is a virtual representation of each user, containing various user information such as personal, interest and preference data. These profiles are the result of a user profiling process and are essential to personalizing the service. As the amount of information available on the Internet increases and the number of different users, customization becomes a priority. Due to the large amount of information available on the Internet, referral systems that aim to provide relevant information to users are becoming increasingly important and popular. Various methods, methodologies and algorithms have been proposed in the literature for the user analysis process. Creating automated user profiles is a big challenge in creating adaptive customized applications. In this work proposed the method, Long Short-Term Architecture (LSTM) is User profile is an important issue for both information and service customization. Based on the original information, the user's topic preference and text emotional features into attention information and combines various formats and LSTM (Long Short Term Memory) models to describe and predict the elements of informal community clients. At last, the trial consequences of different gatherings show that the concern-based LSTM model proposed can accomplish improved results than the right now regularly involved strategies in recognizing client character qualities, and the model has great speculation, which implies that it has this

Keywords: technology-driven, user profiting, Long Short Term Memory, information, social network, customized applications.

I. INTRODUCTION

Social sites give a spot to clients to communicate, connect and offer their viewpoints. The ascent of interpersonal organizations and the fast development of datasets have set out open doors for text research. A scholarly examination can recognize a client's qualities from a client's corpus, social site client attributes, and other data. Character

acknowledgment has gotten a lot of consideration as of late as an examination objective pointed toward distinguishing clients' character qualities. First, character qualities as a reasonable fundamental element are connected with users' desired subject to examine. Character attributes for longrange interpersonal communication with clients can be distinguished given user-generated content (UGC).

Web user analysis is the process of identifying data that makes up the user's preferred areas for the user model. User profiles are often used for personalization and user modeling. It represents personal information about personal users, demographic information (name, age, education level, country, etc.) or interesting facts. When is interact with them, need to capture user behavior (interesting topics, ratings, patterns, goals, etc.). Internet user modeling is the process of gathering information about user interests and the creation, maintenance and use of user profiles. For example, ecommerce systems enhance user satisfaction by capturing the characteristics of online users, identifying similar online users and providing customized products and services.

User Profile technology is widely used in various network searches, user adaptive software systems, network user identification, customization, referral, electronic market analysis, intelligent consulting systems, intelligent agencies, personalized information retrieval and filtration. The content and amount of information contained in user profiles will vary depending on the application area. The accuracy of user profiles depends on how user information is collected and organized. Additionally, this information reflects the accuracy of the user-generated profile.

In order to explore useful ways to predict the user's personality, this paper takes pre-knowledge, introduces focusing mechanisms, and develops LSTM models based on

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2. Dr. Diwakar Tripathi: IEEE, 2nd International Conference on Technological Advancements in Computational Science (ICTACS)

2022 2nd International Conference on Technological Advancements in Computational Sciences (ICTACS)

Malware Detection Classification using Recurrent Neural Network

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Abstract— Nowadays, increasing numbers of malicious programs are becoming a serious problem, which increases the need for automated detection and categorization of potential threats. These attacks often use undetected malware that is not recognized by the security vendor, making it difficult to protect the endpoints from viruses. Existing methods have been proposed to detect malware. However, as malware variations develop, they can lead to misdiagnosis and are difficult to diagnose accurately. To address this problem, in this work introduces a Recurrent Neural Network (RNN) to identify the malware or benign based on extract features using Information Gain Absolute Feature Selection (IGAFS) technique. First, Malware detection dataset is collected from kaggle repository. Then the proposed pre-process the dataset for removing null and noisy values to prepare the dataset. Next, the proposed Information Gain Absolute Feature Selection (IGAFS) technique is used to select most relevant features for malware from the pre-processed dataset. Selected features are trained into Recurrent Neural Network (RNN) method to classify as malware or not with better accuracy and false rate. The experimental result provides greater performance compared with previous methods.

Keywords: Malware, Pre-processing, Recurrent Neural Network (RNN), Information Gain Absolute Feature Selection (IGAFS), Internet, Malware detection dataset, cyber security.

I. INTRODUCTION

Today, the Internet is a part of our work. Malware is a program created for malicious purposes, and it has become a crucial universal Internet threat. Is increasing the volume of malware year by year and cyber-attacks are becoming more sophisticated. On the other hand, these types of viruses by malware are serious. In these advanced attacks, security vendors are used to detecting undetected malware and detect malware systems. In addition, sophisticated malware has been

developed that modifies its own code to avoid signature compatibility.

The use of traffic data to diagnose malware infections is one of the post-infection countermeasures. However, modern malware traffic is difficult to detect because it reflects harmless traffic. In addition, the attacks have been silenced and covered up like the intent of the attacker to steal intellectual users' property. As a result, some malware has appeared, which in turn must steal information, thus reducing the frequency of traffic. As can, malware infections are not easy to detect.[1]

This paper proposes Recurrent Neural Network (RNN) method for malware detection systems that utilize process behavior to detect whether a user is affected. Information Gain Absolute Feature Selection (IGAFS) technique is used to choose the optimal features for malware viruses from pre-processed dataset. Then the proposed algorithm is utilized to efficiently classify the malware or not. The contribution of this research, our proposed RNN algorithm based IGAFS is used to identify whether malicious or benign based on machine activity.[2]

This paper illustrates the following structure: Section 2 describes the review of existing malware detection techniques. Section 3 describes the implementation of the proposed methodology. Then, Section 4 defines the simulation result analysis. Finally, section 5 defines the conclusion.

II. LITERATURE SURVEY

A. A. Darem et al. (2021), the author investigates malware viruses that pose a major threat to cybersecurity due to potential damage to computer systems. So, the study introduces an Adaptive behavioral-based Incremental Batch Learning Malware Variants Detection (AIBL-MVD) to predict the virus

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3. Nisha Vyas: International Journal for Multidisciplinary Research



International Journal for Multidisciplinary Research

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A study of Corporate Insolvency Resolution Process of Bhushan Steel Ltd. with reference to 'Insolvency and Bankruptcy Code 2016'

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ABSTRACT

Any economy's ability to expand depends on an effective bankruptcy legislation. Any insolvency law's primary goal should be to assist struggling businesses in reorganizing so they may start over, and if that is not possible, to provide a simple method for them to liquidate their assets and leave the market. The Government has a responsibility to make it simple for failing businesses to depart the market in order to maximize the utilization of economic resources. There was no efficient process in place to remove failing businesses from the Indian market. As business becomes easier, effective insolvency resolution encourages more investment in the economy. The Insolvency and Bankruptcy Code 2016 framework is intended to speed up the Corporate Insolvency resolution Process(CIRP) by concentrating on recovering asizable sum of money from the corporate debtor within a predetermined time frame. If there is no settlement, the liquidation procedure is then started by maximizing the value of the assets.

The main flaw in the prior methods was their disregard for the deadlines for the resolution phase. As a result, the assets' value decreased, and the creditor received little or no compensation. Insolvency and Bankruptcy Code 2016 major goal is to maximize the value of the debtor's assets by allowing resurrection and resolution in a timely way. So it is important to study the IBC Code and give the procedure a closer look in order to ensure that this government endeavor does not suffer the same fate as prior projects.

The researcher examines the new code in relation to comporate insolvency proceedings and examines the financial impact that the new law will have on the collection of financial institutions' debts. This would make it easier for us to comprehend how effective IBC is in comparison to other earlier schemes. The summary of case study of Bhushan Steel Ltd. can show how the new code is operating and accomplishing its goals. The study's findings will reveal how effective the bankruptcy Code, IBC, Corporate Insolven

1. INTRODUCTION
With the adoption of the new Insolvency and Bankruptey Code (IBC) law in 2016, India has begun a new era of insolvency resolution. Insolvency law in India has changed from "Debtor in Possession" to "Creditor in Control." The finance ministry referred to this as the "largest economic reform" in the nation. "Creditor in Control." The finance ministry referred to this as the "largest economic reform" in the nation. For the first time in Indian history, all of the post-independence insolvency laws have been consolidated under one roof. This code's primary goal is to quickly resolve stressed assets, which was highly challenging under previous insolvency regulations. The stressed assets were only growing because of the procedural delays in the preceding insolvency procedures. One of the primary causes of a surge in NPAs is India's inadequate insolvency laws. After insolvency and Bankruptcy Code 2016 the resolution process period is reduce to 1.6 years to 4.6 years and recovery rate has gone up from 26.5% to 71.5%, which reduced the NPA's of the Bank. Rank of India in ease of doing business also increases after the introduction of Insolvency and Bankruptcy Code 2016 from 142 in 2014 to 63 in 2022(World Bank Report).

This code is a radical move that gives banks much greater authority to recover their loans. They may now begin insolvency proceedings at the National Company Law Tribunal and declare loans to be in default (NCLT). The lenders can finally recover debts from defaulting borrowers and protect the hard-earned wealth of hundreds of millions of Indians.



International Journal for Multidisciplinary Research

An International Open Access Peer Reviewed Journal

Certificate of Publication

The editorial board of IJFMR is hereby awarding this certificate to Mrs. Nisha Vyas

for the publication of the research paper titled

A study of Corporate Insolvency Resolution Process of Bhushan Steel Ltd. with reference to 'Insolvency and Bankruptcy Code 2016'

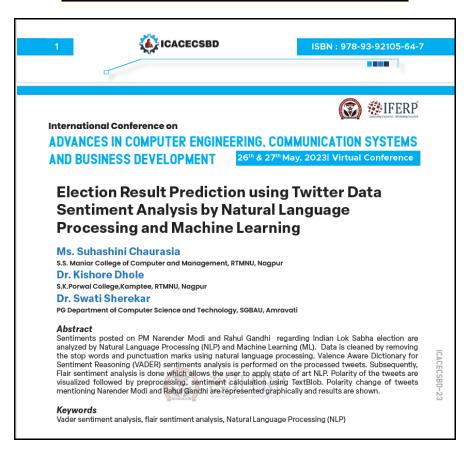
in the International Conference on Multidisciplinary Research & Studies 2023 held on 21st January, 2023 at S.P.M. Science & Gilani Arts, Commerce College, Ghatanji.

The paper was peer reviewed and a review committee accepted it to publish Volume 5, Issue 1 in the Special Issue of ICMRS23 of the journal IJFMR.

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Sue Sue Editor, IJFMR

4. Dr. Suhashini Chaurasia: International Conference in Computer Engineering, Communication Systems ad Business Development







5. Deepali Bhende: International Conference in Computer Engineering, Communication Systems and Business Development (Best Paper presentation award)



International Conference on

ADVANCES IN COMPUTER ENGINEERING, COMMUNICATION SYSTEMS AND BUSINESS DEVELOPMENT

Analysing Machine Learning Techniques for Diagnosis of Thyroid Disease

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Abstract
Early stage prediction of a disease is an important and challenging task. Application of machine learning techniques is playing an important role in this era. Thyroid is one of the chronic endocrine disease and approximately 42 million peoples are affected by this disease in India. According to Dr.Rakesh Bobba endocrinologist at Ramesh group Hospitals, Amravati most of the patients are at high risk due to the undiagnosed disease. If thyroid disease is not treated properly then there is a risk of life of patient. Classification techniques of machine learning are useful for prediction of disease and to obtain the more accuracy various feature selection methods are also available. This study is a review of the feature selection methods used in improving the result of thyroid prediction model. Wrapper and filter methods are popular feature selection methods. The research work included the analysis thyroid data set collected from UCI repository and also a systematic literature review to identify the suitable feature selection algorithm to improve the prediction of thyroid disease.

Index Terms
Thyroid Disease, Machine Learning, feature selection, Random Forest, Naïve Bayes, K Nearest Neighbour







International Conference on

ADVANCES IN COMPUTER ENGINEERING, COMMUNICATION SYSTEMS
AND BUSINESS DEVELOPMENT

26th & 27th May, 2023| Virtual Conference

Revolutionizing Business and Society: The Transformative Impacts of Data Science

Dr. Diwakar Ramanuj Tripathi

Assistant Professor and HOD Computer Science, S.S. Maniar College of Computer & Management, RTMNU, Nagpur

Dr. Ashwini Ghogare

Assistant Professor, Department of Computer Science, Ahemadnagar

Abstract

In addition to examining the transformative effects of data science on businesses and societies, the research sought to uncover the major factors influencing the adoption of data science, the obstacles that organizations must overcome in order to use it successfully. In this study, both quantitative and qualitative methodologies were employed. A survey tool is required to gather information regarding the use, consequences, and challenges of data science, which is becoming more and more common in both industry and society. The data were introduced using descriptive statistics, and the relevant hypotheses were evaluated using the t-test and regression at the 0.05 significant level. Adoption of data science has a significant impact on retail consumer satisfaction, rejecting the null hypothesis. Rather than the type of business or the quantity of the company's budget for data science activities, data science acceptance or difficulties is mostly dictated by company size and prior expertise with data analytics. It not only serves as a record of the current situation, but it also advances knowledge by highlighting 11 positive indications and 16 bad signs related to analytical skills. Associations should attempt to adjust chiefs' attitudes to transform information into data and enhance the business. It is necessary to plan for IT investments, along with strategy and governance frameworks. Numerous empirical studies that highlight various perspectives on the advantages and difficulties of DS for business are available.

Keywords

Data Science, business operations, efficiency, personalized customer experiences, predictive analytics





7. Mansi Nagalkar, International Conference in Computer Engineering, Communication Systems and Business Development



International Conference on

ADVANCES IN COMPUTER ENGINEERING, COMMUNICATION SYSTEMS
AND BUSINESS DEVELOPMENT

26th & 27th May, 2023| Virtual Conference

Smart Authentication and Monitoring by Face Recognition to Maintain the Attendance Record Using Deep Learning

Mansi Nagalkar

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Harsha Akash Urkudkar

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Assistant Professor, Department of Computer Science ,G.H Raisoni Institute of Engineering and Technology,

Dr.Ashish Sasankar

Principal, New Arts Commerce and Science College, Wardha, RTMNU

Abstract

Face recognition is one of the mostly used biometrics. It can used for security, authentication, identification, and has got many more advantages. Despite of having low accuracy when compared to iris recognition and fingerprint recognition, it is being widely used due to its contactless and non-invasive process. Furthermore, face recognition system can also be used for attendance marking in schools, colleges, offices, etc. To maintain the attendance record with day to activities is a challenging task. The conventional method of calling name of each user is time consuming and there is always a chance of proxy attendance. The following system is based on face recognition to maintain the attendance record of students. Not only this system authenticate the user but also monitor the total time of the user present in the premises which the previous authentication methods don't provide, taking advantage of this some users just log in time and out time and in between they leave the premises for their personal work. So to overcome this our system provides proper monitoring for users till the time they are present in the premises.



8. Dr. Suhashini Chaurasia: International Conference on Advanced Communications and Machine Intelligence

Sentiment Classification using Natural Language Processing and Machine Learning

Suhashini Chaurasia S. S. Maniar College of Computer and Management Nagpur

Dr. Swati Sherekar PG Department of Computer Science and Engineering Sant Gadge Baba Amravati University Amravati

Abstract. Sentiment analysis include classification of sentiments expressed in text. Sentiment analysis tasks include classification of sentiment polarity expressed in text. Social media sentiment classification technique focuses on classifying sentiments broadly into positive, negative or neutral. The method has been developed for extracting the social media sentiments and then analyzing using Natural Language Processing (NLP). These are further classified using Machine Learning (ML) classifiers. Comparison of five machine learning classifiers are performed on five different performance measure parameters which results in best classifier.

Keywords: Sentiments Analysis, Natural Language Processing (NLP), Machine Learning (ML)

1 Introduction

Sentiment analysis is one of the fields of research in data analysis which determines "What other people think towards entities, individuals, issues, events, topics". It refers to detection of the polarity of any entity or event as positive, negative or neutral. The detection of expressions of sentiment in online text has become a popular NLP application. The task is commonly defined as identifying the words or phrases in a given fragment of text in which the reader understands that author expresses some person's attitude towards a particular topic. The four elements words, attitude holder, topic, attitude value have evolved with hardly any discussion in the literature about their foundation or nature.

The main goal of sentiment analysis is to determine the attitude of a user about text. A number 0, 1 and 2 are assigned to each word that reflects the feeling of the user. To estimate this number for a post, author calculates average sentiments of the terms in the post. If the average is above the zero, positive orientation is inferred. On the other hand, if the average is below zero it indicates the negative sentiment.

adfa, p. 1, 2011. © Springer-Verlag Berlin Heidelberg 2011





International Conference on Advanced Communications and Machine Intelligence - MICA 2022 09 - 11 December, 2022

Certificate

This is to certify that Suhashini Awadhesh Chaurasia of S.S. Maniar College of Computer and Management, Nagpur has presented the paper titled Sentiment Analysis of Twitter data by Natural Language Processing and Machine Learning authored by Suhashini Awadhesh Chaurasia and Swati Sherekar at the International Conference on Advanced Communications and Machine Intelligence organized by Department of Information Technology, M. Kumarasamy College of Engineering, Karur, Tamil Nadu, India.



PRINCIPAL (Dr. N. Ramesh Babu)

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9. Deepali Bhende: IEEE, 11th International Conference on Emerging Trends in **Engineering and Department of Electronics Engineering**

2023 11th International Conference on Emerging Trends in Engineering & Technology - Signal and Information Processing (ICETET - SIP)

Performance Evaluation of Machine Learning Methods for Thyroid Prediction

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Abstract - Diagnosis of the disease is a crucial stage as it leads to the patient's proper treatment. Thyroid disease is one of the most denoite endoctrine illnesses. The thyroid disease is one of the most denoite endoctrine disease. Thyroid gland services the hormones which controls the metabolism of the body. There are mindly two thyroid donoters samely hypothyroid and hyperthyroid. Using machine learning techniques including Random Forest, Naive Bayes, and Decision Tree, this study aims to detect thyroid disorders. Thyroid dataset is collected from Latta Mangeshiar Hopatial at Nagguur. The dataset consist of total 225 patient's data. The performance of the algorithms was evaluated using different metrics as accuracy, precision, recall and I-score.

Index Terms - Machine Learning, thyroid dataset, Random Forest, Naïve Bayes, K Nearest Neighbour

I. INTRODUCTION

I. INTRODUCTION

Recently the advancement of the computational biology is used in healthcare industry. It allows using patient's stored data for the prediction of the disease. The prediction of diseases at the early stage is very important. Machine Learning techniques play an important role to perform the analysis of complex data with high accuracy. One of the most prevalent illnesses today is thyroid. The thyroid is an endocrine gland with a butterfly-like form that is located in the human body's neck, just below the Adam's apple [1]. The thyroid gland secretes the hormones that regulate protein synthesis and metabolism. The thyroid releases two types of active hormones levothyroxine (T4) and trilodothyronine (T3) and TSH [2]. These hormones are responsible for metabolism activities heart rate, body temperature etc. There are two disorders with respect to thyroid gland — Hypothyroidism and abnormally oversupply of thyroid leads to Hypothyroidisms and abnormally oversupply causes Hyperthyroidism [3].

In Hyperthyroidism, thyroid gland releases excess amount of thyroid hormones. Symptoms of the hyperthyroidism include weight lass increased heart rate, dry skin, hair loss, high blood pressure, heavy sweating etc.[4] In hypothyroidism, the thyroid gland is underactive. Hypothyroidism is caused by a reduction in thyroid hormone

production. The two main causes of hypothyroidism are inflammation and thyroid gland damage [5]. Some of the symptoms of hypothyroidism include low heart rate, increased cold sensitivity, obesity, heavy menstrual periods, and other conditions. There is high risk of life if the thyroid patient is not teated properly. The early detection and errorless diagnosis of the disease is very important.

errorless diagnosis of the disease is very important. Healthcare sector has huge amount of data and analysis of such huge data is one of the challenging task. Machine learning techniques plays important role in extraction of data which may be very useful in decision making [6]. Classification techniques plays important role in identifying the classes present in data. It is a two-step process in which a classification model is first bull using training data before an unknown tuple is presented to the model in order to assign it a class label [7]. There are many classification techniques as Random Forest, Naive Bayes, Support Vector Machine, etc. This paper reviews the different classification techniques used for the diagnosis of thyroid disease and the prediction accuracies are obtained.

II. LITERATURE SURVEY

In the research paper [8], author has performed the analysis and comparison of various machine learning algorithms such as Naive Bayes, KNN, Decision Tree, AdaBoost, XG Boost, Light GBM, and CatBoost. The Hypoid dataset was collected from UCI repository with 21 attributes. The comparative analysis showed that XGBoost technique achieves highest accuracy and Naive Bayes performance was very poor

In the experimental comparative study that was conducted to predict the thyroid disease risk [9]. From UCI repository the Sick-Euflwrjoid dataset was collected. Total 10 ML techniques are applied which includes ANN, CatBoost, Kgid ROBM. Decision Tree, Random Forest, Extra Tree , Support Vector Machine , KNN and Gaussian NB. With a 95% accuracy rate, it outperforms all other algorithms. The accuracy of the XG Boost and CatBoost classifiers, which come in second and third, respectively, is 95.35% and 95.33%.

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National Conference

1. Dr. Suhashini Chaurasia: 108th Indian Science Congress

108th INDIAN SCIENCE CONGRESS,2023 Section VIII: Information and Communication Science & Technology (Including Computer Sciences)

40. Twitter Data Sentiment Analysis using various Machine learning classifiers

Suhashini Chaurasia, Dr. Swathi Sherekar, Dr. Vilash Thakre SSMCCM, Nagpur SGBAU, Amravati, Maharshtra, India ssuhashinic@gmail.com, s_sherekar@rediffmail.com, vilthakare@yahoo.co. in

Keywords—Sentiment analysis, KNN, SVM, NB and RF **Abstract**—Twitter data is the source where user tweets. These tweets are processed using various machine learning classifier. Sentiment analysis on the twitter data is performed using various machine learning classifiers - K-Nearest Neighbor(KNN), Support Vector Machine (SVM), Naïve Bayes (NB) and Random Forest (RF). Confusion matrix is drawn. Accuracy and F1 score is calculated and the best classifier is predicted.





2. Mansi Nagalkar: Research Innovations in ICT and Computing Technologies

National Conference on "Research Innovations in ICT and Computing Technologies" (NCRIICT-2023)

Special Issue of Journal of Innovation in Sciences (Online), ISSN: 2394-8051

Using Text Mining for Business Analytics

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Abstract: Progression and innovation in the area of mobile technologies and speed of the internet resulted enormous growth in data subsequently with high rate. Massive data is present over the internet on various platform such as social media sites, e-commerce sites or any other platform which are important to the users and as well as to the organisations. The data present over the internet is in in the unstructured (Text) format. E-mails, social media, notes, and wide variety of different types of documents in text formats are present, but all these data are not get importance and analysed in meaningful ways. It has been observed that information workers spend their significant time to locating this information and trying to make sense of it. Text analytics is the process which analysed all these available unstructured text information and converts it into useful information which helps the organization significantly in their business processes and can be used to explore further possibilities.

Keywords: Artificial Intelligence, Text Mining, Text Analytics, Natural Language Processing, Business Analytics, Email Mining, Meeting Transcripts Knowledge Extraction, Sentiment analysis

I. INTRODUCTION

Today, large amount of data is available over the internet. But, most of it is contained in the form of unstructured text. Enterprises that hold this data find it difficult to store, process, and analyze it. Similarly, it is very difficult to retrieve useful information from such unstructured data sources. This difficulty in finding only the relevant information may prove critical in certain sectors, such as healthcare and finance etc. Here, the concept of text mining comes in to the picture to rescue. Text mining is an artificial intelligence (AI) technology that uses natural language processing (NLP) to transform the free (unstructured) text in documents and databases into normalized structured data suitable for analysis such as to identify concepts, patterns, topics, keywords and other attributes in the data. It's also known as text analytics, although some people draw a distinction between the two terms; in that view, text analytics refers to the application that uses text mining techniques to sort through data sets. Unstructured data is fundamentally different from structured data because while structured data is generated by computers, unstructured data is generated by humans. So, while the latter is formatted and

organized, the former is inconsistent but unique[1]. However, even though unstructured data is difficult to analyze, the fact is that the unstructured data that enterprises have, holds deep insights hidden within. These insights, if unravelled, can help a business formulate strategic business decisions to fuel business growth. Mining and analysing text helps organizations find potentially valuable business insights in corporate documents, customer emails, call centres logs, precise survey comments, social network posts, medical records and other sources of text-based data [2].

II. HOW TEXT MINING WORKS

Text mining is similar in nature to data mining, but with a focus on unstructured text instead of more structured forms of data. However, one of the first steps in the text mining mechanism is to unify and organise the data in such manner so it can be subjected to both qualitative and quantitative analysis[3]. Doing this typically involves the use of natural language processing (NLP) technology, which computational linguistics principles to parse and interpret data sets. The upfront work includes categorizing, clustering and labelling text; summarizing data sets; creating taxonomies; and extracting information about

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