

Article

# A Novel Liquid Chromatographic Method for the Quantitative Determination of Degradation Products in Remdesivir Injectable Drug product

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## Abstract

An effectual and stability signifying technique has been validated for the quantitative verification of degradation products in Remdesivir Injectable pharmaceutical products by employing high-performance liquid chromatography with ultraviolet detector. The process was optimized by using an octyldecylsilane chemically bonded column (Kromasil KR100-5 C18; USP L1 phase) with dimensions; 250 mm length × 4.5 mm inner diameter and 5-µm particle size. The method was validated as per International Conference on Harmonization and other current regulatory guidelines for analytical method validation. The anticipated process was found to be robust, accurate, specific, linear, precise, stable and rugged in the concentration ranging from quantification level to 200% of the specification level of specified and unknown degradation impurities. The technique was effectively applied to analyze degradation products in Remdesivir Injectable drug products.

## Introduction

Remdesivir is a white to an off-white crystalline powder, having molecular formula and weight  $C_{27}H_{35}N_6O_8P$  and 602.58 g/mol correspondingly (Figure 1).

Remdesivir is an adenosine triphosphate analog by impending antiviral activity versus a diversity of RNA virus/s. Remdesivir is a carboxylic ester ensuing from the condensation of the carboxy group of N-[(S)-[[[(2R,3S,4R,5R)-5-(4-aminopyrrolo [2,1-f] [1,2,4] triazin-7-yl)-5-cyano-3,4-dihydroxytetrahydrofuran-2-yl]methoxy] (phenoxy)phosphoryl]-L-alanine with the hydroxy group of 2-ethylbutan-1-ol. Upon administration, Remdesivir, being a prodrug, is metabolized into its active form GS-441524 (1). Remdesivir is an antiviral drug discovered by Gilead Sciences in the brand name Veklury to combat the West African Ebola viral pandemic in 2010. Also, it exhibits activity against the hemorrhagic fever Marburg virus (MARV), the Middle East respiratory syndrome-related coronavirus

(MERS-CoV). Remdesivir is also being examined as a potential treatment to (severe acute respiratory syndrome coronavirus 2 [SARS-CoV-2]) for COVID-19 (2–8). Remdesivir was granted a Food and Drug Administration disaster utility authorization on 1 May 2020 (9). The literature survey reveals that thus far Avataneo and companions examined the analysis of Remdesivir (its metabolite GS-441524) by employing the UHPLC–MS–MS technique (10). Hence, there is a noteworthy requirement for a specific methodology for the quantitative estimation of Remdesivir and its degradation products in Remdesivir Injectable products.

Some of the articles referred in which the authors worked on complex degradation products of different antiviral drug products using liquid chromatographic techniques (11–13).

This paper outlines a typical permanence demonstrating reverse phase high-performance liquid chromatography (RP-HPLC) technique to quantify Remdesivir degradation products in Remdesivir Injectable drug products. The proposed technique was validated in



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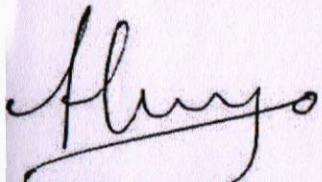
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## A SIMPLE GAS CHROMATOGRAPHY METHOD FOR THE QUANTITATIVE DETERMINATION OF RELATED IMPURITY (1,4-BUTANEDIOL) IN BUSULFAN DRUG

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### ABSTRACT

A competent and significant technique has been established for the quantification of related impurity (1,4- Butanediol) in Busulfan Drug by employing Gas Chromatography furnished through Flame Ionization Detector (FID), and auto liquid sampler. Chromatographic separation accomplished on a capillary column with specifications; DB-1 phase having 30 m length, 0.53 mm i.d. and 2.65  $\mu\text{m}$  thickness of the film. The methodology was validated following relevant regulatory guidances. The technique proposed was noticed to be accurate, specific, robust, stable, linear, precise, and rugged with concentration ranging from Lowest Limit of Quantitation (LLQ) level to 200% of the specification limit for 1,4-Butanediol.

**Keywords:** Busulfan, 1,4-Butanediol, Related Impurity, Gas Chromatography, Capillary Column.

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### INTRODUCTION

Busulfan is formed by the reaction of Butanediol and Methane sulfonyl chloride in the presence of a suitable alkalinizing agent and a solvent. It is a crystalline white powder, having  $\text{CH}_3\text{SO}_2\text{O}(\text{CH}_2)_4\text{OSO}_2\text{CH}_3$  as molecular formula and MW of 246. Busulfan is used for the medical treatments of chronic myeloid leukemia as well as a potent alkylating agent.<sup>1</sup> Presently, Busulfan drug formulations are available in the market as 'Myleran', a white film-coated oral tablet having 2mg of Busulfan, and 'Busulfex' an intravenous injectable solution having 6mg/mL of Busulfan in 10 mL single vial.<sup>2</sup> To meet the pharmaceutical regulatory body's guidelines, it is obligatory to monitor 1,4-Butanediol impurity in Busulfan products.<sup>3-4</sup> 1,4-Butanediol is a related compound of Busulfan and is considered as one of the hydrolytic degradants as per the available literature.<sup>5</sup> Literature survey reveals thus far, there is no specific method for the quantification of 1,4-Butanediol in Busulfan drug products and it is not available in any of the pharmacopoeia official monographs.<sup>6-11</sup>

Hence, the easiest and specific technique by Gas chromatography with Flame Ionization Detector to determine 1,4-Butanediol in Busulfan drug was developed and validated.

### EXPERIMENTAL

#### Chemicals and Standards

GC grade 1,4 Butanediol, Acetonitrile and Acetone with purity of almost 99.9% were procured from Merck.

#### Instrumentation and Chromatographic Conditions

The analysis was executed by adopting Gas Chromatography fitted with a Flame Ionization Detector (Agilent make7890A). Introduction of Samples via Split less/Split injection port and detected by FID. For

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## **A Study “ON EMPLOYEE ENGAGEMENT ACTIVITIES AT H & R JOHNSON (INDIA) A DIVISION OF PRISM CEMENTS”**

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### **Abstract:**

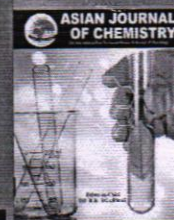
The study is a resourcefulness which bridges the gap between the knowledge and its application through a series of interventions which enables the learners to obtain awareness and experience to the business. The program extends for a period of 10 weeks which provides a good opportunity to experience the practicality in terms of subjects studied. It also gives practical exposures.

### **INTRODUCTION**

H & R Johnson (India) a division of prism cement limited manufacturers of exclusive brand of white body wall and floor tiles and fully vitrified tiles, is the trailblazer in the tile industry with a dominant presence all over the globe for over 100 year the brand has gained the trust of over four generations. H & R Johnson (India) a private limited company was established in 195 which currently owns and operates tile manufacturing plants at Pen (Maharashtra), Kunjal (Karnataka), Karak

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## GC-FID Technique for the Quantitative Evaluation of Multiple Residual Organic Solvent Impurities in Fosaprepitant Dimeglumine Drug

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A proficient and distinct methodology is established for the quantification of multiple residual organic solvent impurities in fosaprepitant dimeglumine drug substance by gas chromatography with headspace sampler (HS-GC) and flame ionization detector (FID). Chromatographic separation was executed on a fused silica dimethylpolysiloxane capillary column (HP-1; USP G2 phase having dimensions, 60 m length  $\times$  0.53 mm dia & 5  $\mu$ m film thickness). The validation of optimized method was carried out in accordance with relevant validation principles. The authenticated procedure was noticed to be specific, precise, linear, accurate, robust and rugged with concentration ranging from lowest quantification level (LQL) to 200% specification level for each residual organic solvent impurities (methanol, ethanol, acetone, isopropyl alcohol, dichloromethane, methyl *tert*-butyl ether, ethyl acetate, tetrahydrofuran, cyclohexane and toluene). The established technique was productively useful to determine the residual solvent impurities in fosaprepitant dimeglumine.

**Keywords:** Fosaprepitant dimeglumine, Residual solvent impurities, Gas chromatography.

### INTRODUCTION

Fosaprepitant dimeglumine (Fig. 1) is an antiemetic drug for intravenous operations. It is distributed as a sterile, lyophilized powder in a sealed vial under the brand name 'EMEND' for injection by Merck and Co., Inc. When fosaprepitant for injection is administered intravenously this quickly converted to aprepitant in the human body. Aprepitant is antagonist (selective) of mankind substance P/neurokinin-1 (NK<sub>1</sub>) receptors. Fosaprepitant for injection, blended with various antiemetic agents, is identified in adults for the control of acute plus delayed nausea as well as vomiting concerned with initial/repetitive courses of high emetogenic cancer chemotherapy (HEC) associated with high-dose cisplatin and for avoiding delayed nausea plus vomiting related with initial and repeat courses of moderate emetogenic cancerous chemotherapy (MEC) [1,2].

In the synthesis, aprepitant is used as the initial raw material, which reacts with tetrabenzyl pyrophosphate in anhydrous tetrahydrofuran with sodium hexamethyldisilazide as a base

to obtain dibenzyl ester intermediate. A benzyl group of dibenzyl ester is removed in anhydrous methanol to generate a single-benzyl ester intermediate, which is hydrogenated to remove a remaining benzyl group and salified with meglumine to obtain fosaprepitant dimeglumine. Fosaprepitant dimeglumine is highly hygroscopic and strenuous for purification. Hence, multiple organic solvents belong to ICH Class II and Class III (methanol, ethanol, acetone, isopropyl alcohol, dichloromethane, methyl *tert*-butyl ether, ethyl acetate, tetrahydrofuran, cyclohexane and toluene) have been used in the purification process of the drug substance [3,4].

These processes related to organic solvents which cannot be removed and controlled completely during the synthesis. Thus, monitoring of these residual organic solvent impurities in the drug substance is mandatory according to regulatory requirements to ensure human safety [5-7]. From the literature survey, it reveals thus far, there is no specific methodology reported to determine these residual organic solvent impurities in fosaprepitant dimeglumine drug substance. Generally, in

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*Manish Kumar*

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# A STUDY ON SOCIAL MEDIA MARKETING

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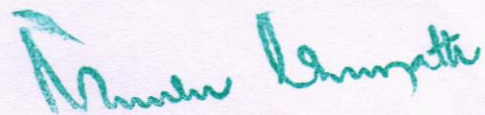
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## ABSTRACT

The latest developments in the field of marketing, communication and information are leading to new innovative business and consumption models, in which users are gaining a leading role and are increasingly important. Social media is rapidly emerging as the next big frontier for customer engagement and interactions. There are millions of customer interactions taking place every day on social media sites such as facebook, Twitter, Youtube, etc. as well as a vast number of customer support forums and online communities. Social media emerged and continues to be as a cultural phenomenon. It is also quickly becoming a business phenomenon. Increasingly, current and prospective customers are using social media to communicate about the products and services they buy or intend to buy. Leading enterprises have recognized the importance of tapping such communications. Social media are new innovative tools that collect millions of users all around the globe and they offer several possibilities and opportunities to companies that want to develop communication and marketing strategies while gaining competitive advantage on their competitors. This paper presents the definition of social media marketing with its strategies; it also attempts to identify the challenge and opportunities facing by social media sector and find out the current and future trend in the area of social media marketing.



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# Study on investors Perception towards mutual funds

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## **Abstract**

The mutual fund sectors are one of the fastest growing sectors in Indian Economy and have awesome potential for sustained future growth. Mutual funds make saving and investing simple, accessible, and affordable. The advantages of mutual funds include professional management, diversification, variety, liquidity, affordability, convenience, and ease of recordkeeping—as well as strict government regulation and full disclosure. Financial markets are becoming more extensive with wide-ranging financial products trying innovations in designing mutual funds portfolio but these changes need unification in correspondence with investor's expectations. Thus, it has become imperative to study mutual funds from a different angle, which is to focus on investor's perception and expectations. This research paper focused attention on number of factors that highlights

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# A study on comparative analysis of Yamaha Fascino with TVS ZEST

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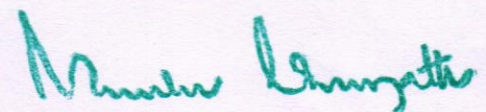
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## INTRODUCTION ABOUT COMPARITIVE ANALYSIS:

Comparative analysis is one of the Method to analysis the performance of the organization by comparing the product or services or something. In this project study I took Yamaha fascino as my project product to comparing with TVS ZEST in Tumakuru city. This method will clearly explain about the product performance.

Focused study/research, basically put, is the gesture for analyzing two or additional things with a see to finding something around particular case alternately constantly on of the



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# Study on Customer Satisfaction Towards The Hindu Newspaper

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## **Abstract**

Customer Satisfaction a term frequently used in marketing is a measure of how products and services supplied by a company meet or surpass customer expectation. So, the every manufacturer has must needed to satisfy their customers. The manufactures cannot easily to satisfying their customers. So, the manufacturer must understand of the customer needs, they need have fulfilled the customer, so the researcher has chosen the interesting topic for measuring the customer satisfaction towards newspapers.

Reading Newspapers and journals has become a part and parcel of everydaylife of human beings. There are people who cannot begin this day without a newspaper. The reading habit helps people to make use of the leisure time usefully. Because of the interest shown in the reading of newspaper and magazines, the journals and newspapers and getting multiplied every day.

Normally, the Hindu Newspaper has ranked one of the top Newspapers in India and they are maintaining the good publicity in the midst of the public. But it need some support from customer for maintaining the good marketing in future. So the researcher thinks these research will be used to suggest the firm for the upgrading

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# A STUDY ON DIGITAL MARKETING IMPACT OF CONSUMER BUYING BEHAVIOR AT DECATHLON, BANGLORE

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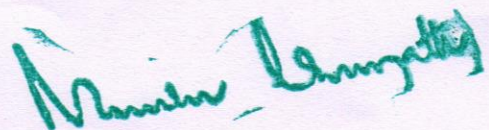
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## ABSTRACT

The purchasing behavior of buyer is changing at a quicker rate in the clients situated market condition. Purchases conduct contrast when it's gone to the items, value , place , advancements, highlight, bundling, purchasing conduct, status , age , age of the client and so forth not with standing. Youth is the most confounding gathering to compare with the changing indications of the current day youth influences the purchasing behavior since their fore the most part follows the beat by design and the taste as indicated by the



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# “A STUDY ON EFFECTIVENESS OF DIGITAL MARKETING AT MYSTICGOLDZ Pvt Ltd ”.

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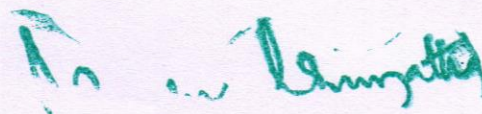
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## INTRODUCTION

Marketing is about expanding an organization's target markets, building long-term relationships with customers, ensuring target profitability and maximizing competitive advantage. Although marketing is a well-known topic in industry and service sectors, it is still misunderstood in the construction business. This is reflected in the lack of scientific research and literature on the subject. In the construction industry, the



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# A STUDY ON WORKING CAPITAL MANAGEMENT AND CONTROL AT MYSTICGOLDZ PRIVATE LIMITED

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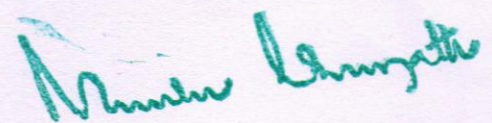
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## ABSTRACT

*Working capital management* is a very essential job which all departments in an enterprise take a lot of time and effort. Furthermore, precise forecasts of working capital requirements are essential to the effective running and administration of a company. In order to accomplish this, it is necessary to manage existing assets and obligations.

All key aspects related to working capital management at MysticGoldz, including the management of various working capital components, such as stock, receivables, payable and cash, have been tackled throughout the research. This report includes a range of financial assessments and other statistics about MysticGoldz's performance over the last two years. It involves analysing their financial resources such as financing sources and how they use their resources. A variety of ratios are calculated, each revealing the most significant financial indicators of the company. We were able to establish the operations cycle of the business, comparing the raw materials, work in progress, finished output and receivable turnover to industry standards (and to assess how far MysticGoldz can fulfil those requirements).



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# Stock Price prediction with LSTM Based Deep Learning Techniques

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**Abstract** - Stock price estimates are a complex task that requires a strong algorithm to calculate long-term prices. Stock prices are naturally related; hence it will be difficult to predict the cost. A proposed algorithm that uses market data to predict the share price using machine learning strategies such as a repetitive neural network called Long Short Term Memory, in which process weights are adjusted for each data point using a stochastic gradient. This program will provide better results compared to currently available pricing estimates algorithms. The network is trained and tested with a variety of input data to attract graphical results.

**Keywords** — Credit Card, Fraud, Autoencoder, Deep Learning.

## I. INTRODUCTION

Researchers in recent years have been using extensive neural networks extensively in the use of retrieval, classification and prediction. Deep neural networks have been developing very well due to data availability and the rate at which numerical calculations are obtained [1]. Sequence of data points taken from areas divided equally by time in serial sequence is known as time series data. One of the most comprehensive learning apps includes time series predictions, which predict future price values. Predictions can be categorized primarily as short-term (predictions of seconds, minutes, and days) and long-term (predictions for more than a year or more).

This paper deals with one of the time series estimates related to a financial sector called Stock Price Prediction. In this Timeline the variable is the stock price. Economic benefits can be easily realized by predicting the development of financial instruments such as stocks. The behavior of the stock is very flexible and confusing in nature. The constant fluctuations in stock make it difficult to predict its future movements. The stock market needs prior knowledge in order for an investment decision to be made wisely. Strategies involved in the analysis of time series of financial

and stocks data have gained value due to their nature of helping to maximize profits while maintaining low risk potential.

Recent advances in series time analysis include the integration of deep neural networks [2, 3] such as CNN, RNN, LSTM networks. The Ensemble of deep neural networks is also used for cell prediction problem [4] but incorporates the training of each specialist separately and obtains results using measurement methods. Instead of training different neural networks separately, one can combine layers of different models into a single deep neural network. In this paper, the proposed approach is based on combining different strategic layers into a single deep neural network while using a small number of training features.

Researchers in the field of financial season analysis using NN models have used different input variables to predict stock returns. In some functions, one-time series data is used as input [5], [6]. Some activities focus on the inclusion of amazing market information and macro economic diversity. In [12], a combination of financial time analysis and NLP has been compiled. In [9] and [7], deep learning structures have been used for modeling the multivariate financial timeline series. In [11], an NN model that uses flexible technical analysis variables was used to predict Shanghai stock market. The task compared the performance of two learning algorithms with two methods of weight gain. The shown results are that the efficiency of back-to-back expansion can be increased by combining gradient readings with repeated line-weight weights.

In 1996, [11] used back distribution and RNN models to predict the stock index of five different stock markets. In [10], the use of time delays, neural network models of the daily presentation process are presented in the daily stock dictionary. In [8], the use of machine learning algorithms such as PSO and LS-SVM used for S&P 500 stock market forecast. Implementation of genetic function and neural network models was introduced internally. The work



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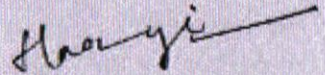
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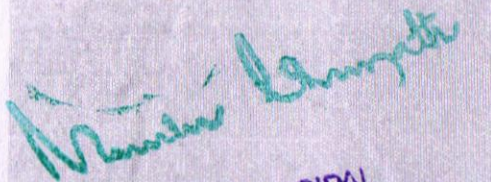
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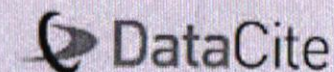
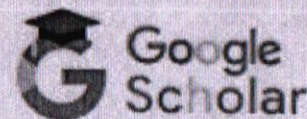
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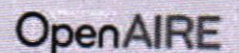
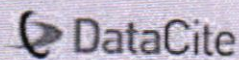
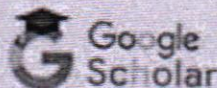
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# Covid-19 Sentiment Analysis using Bidirectional Encoder Representations from Transformers

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**Abstract** - Corona coronavirus (COVID-19) is a progressive pandemic that is being recognized worldwide. However, spreading false news on social media platforms such as Twitter creates unnecessary concern about the disease. The motto of this study analyzes tweets by Indian netizens during the closure of COVID-19. The data included tweets collected between 23 March 2020 and 15 July 2020 and the text was written as fear, sadness, anger and happiness. Data analysis was performed by the Bidirectional Encoder Representations from Transformers (BERT) model, which is a new in-depth study model for text analysis and performance and was compared with three other models such as logistic regression (LR), vector support (SVM). The accuracy of all the words was calculated separately. The BERT model produced 86% accuracy. Our findings point to a significant increase in keywords and related names among Indian tweets during the COVID-19 era. In addition, this work clarifies public opinion on epidemics and leads public health authorities to a better society.

**Keywords** — Covid-19, Sentiment Analysis, BERT, Deep Learning.

## I. INTRODUCTION

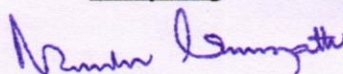
The COVID-19 can be a deadly illness currently days and conjointly the folks are plagued by this and much of people last their lives World Health Organization declares it as common illness. The primary case of COVID-19 in Asian nation, that derive against China, move elaborate on thirty January 2020 were made public among the state of Kerala. To manage this such an outsized quantity of measures are taken by government like Lockdowns are declared among the country on twenty five March. A assist flap starting in March 2021 move abundant larger than the first, with varied issues are Janus-faced by Medical hospitals like scarcity about dose, cot, oxygen gas barrel and alternative medicines in elements of the nation. Asian nation began its vaccination program on sixteen January 2021[1].

India has licensed people Oxford– AstraZeneca vaccinium (Covishield), the Indian BBV152 (Covaxin) vaccinium, thus the Russian satellite V vaccinium for emergency use. As World Health Organization Director-Generic Tedros Adhanom Ghebreyesus announced found in the urban center Security Conference on fifteen February 2020, "We're not simply determined AN endemic; we're determined AN information emic ". It's even been claimed that the unfold of COVID-19 is supported by information. However, information does not solely contribute to the spread: information would possibly bolster concern, drive social disagree, and can even lead to direct injury[2].

This paper introduced BERT model to classify the COVID tweets. We considered the massive dataset of coronavirus tweets by Kaggle.com. With the intention to totally make the foremost this information inside the facts. It far necessary to recommend a possible and affordable category technique for the textual content of the people's livelihood hotline.

## II. RELATED WORK

This sentimental analysis process by using the technique called NLP to predict the people opinion,emption it is also called as opinion mining. By consodering the recent history ,the researches analyse that type of data and classify the emotions into variant. In literature, multiple ways to measure on the market to resist sentiment analysis that involves extracting varbal sentiments with the records (Kim and Hovy 2006). However, options square measure related with the sentiment victimization metal and trigrams. As a result of the emotions square measure currently a typical because of express feelings, so emojis square measure usually used for negative, positive, and neutral thoughts. This exhibits the among operating of system by using victimization anybody of the prevailing ways to carryout Sentiment Analysis. This above image that exhibits the strategy to categorize the text or wordings among completely different sentiment teams like positive, negative, and neutral[3][4].



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# Optimal Routing and Scheduling for Cognitive Radio Sensor Networks using Ensemble Multi Probabilistic Optimization and Truncated Energy Flow Classification Model

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**Abstract** - Providing routing to the Cognitive Radio Sensor Network (CRSN) is one of the crucial and demanding issues in recent decades. The routing issues can be listed as data jamming, illegal tracking of Sensor ID, and position detection in the fast-moving of sensors. So, different types of communication protocols and routing algorithms have been developed in the conventional works for ensuring both reliable communication and increased routing. Still, it limits to problems related to high time consumption, complexity, and inefficient routing. In order to avoid these problems, this paper intends to develop a new Ensemble Multi-Probabilistic Optimization (EMPO) – Truncated Energy Flow Classification (TEFC) algorithm for CRSN. Here, the channel selection model is deployed to analyze the parameters of network architecture, which includes the computation cost and sensor information used for the communication service. Also, the channel selection is deployed for providing random licensed parameters and temporary parameters based on the data link that forms the random parameters generation process. There are two stages here; at first, the EMPO technique is implemented to select the most suitable path for enabling the data transmission on the network. Then, a TEFC algorithm is employed to select the original data before it is transmitted to the corresponding destination. The experimental results evaluate the performance of the proposed technique by analyzing various evaluation measures. Also, the results are compared with some of the existing techniques for proving the superiority of the proposed technique.

**Keywords** — Cognitive radio sensor network, Ensemble Multi-Probabilistic Optimization, Optimal routing, and scheduling, Truncated Energy Flow Classification

## I. INTRODUCTION

In recent days, the Cognitive Radio Sensor Network (CRSN) plays an essential part in the field of future intelligent transportation systems. Because it can support various types of services that include natural disasters, emergency operations, and attackers detection processes, in this architecture, the sensors in the network [1] are connected via wireless communication technology. Moreover, it establishes the communication between the connected sensors for exchanging emergency information. The basic architecture of CRSN [2] with channel arrangement system is depicted in Fig 1, where the set of sensors are connected to the Road Side Unit (RSU) and trusted authority. In this structure, providing routing to the network is one of the challenging and demanding issues. For this purpose, various routing mechanisms have been developed in the traditional works for ensuring the routing of the network. Typically, the lightweight optimal selection [3] techniques such as processing and reconstruction methods are used to secure the data packet against unauthenticated access.

To improve the routing level in data transmission, the channel nodes provide routing and privacy by performing an enhanced model of optimal selection computations. There are three major categories of channel routing and privacy that can be listed as network services and communication, data processing, and end-user devices. The major limitations of the existing techniques [4] are increased complexity, time consumption, and not being highly efficient. In order to solve these problems, this research work intends to develop a new optimization technique with an improved optimization algorithm based on the channel selection process for securing the CRSN against attacker nodes.



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*R. Sumathi*

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# Analysis of Floating Columns in Multi-Storey Building Using SAP2000vs20

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**Abstract:** Construction of high rise building in urban cities/ Metropolitan cities are constructed on a concept of utilization of space upto its maximum extent. Nowadays, in visualization of this concept providing parking, in entrance corridors, free space, soft stories in commercial building, residential building and industrial building are achieved. To develop this. Structural Engineers have come up with an idea of floating columns which are constructed on the beam slab system, which have a varied load transfer path. In this project, the behaviour of the floating columns under different seismic conditions and at different levels are studied. This structure consists of 10 storeys with a height of 30m for commercial activities and with a terrace. Analysis of floating columns using SAP2000v20 for various load conditions is done. The final responses such as time period, maximum base shear, maximum stiffness and maximum displacement are determined for the complete analysis.

**Keywords:** Floating Column building, Floating column building in SAP2000v20.

## 1. INTRODUCTION

In the present days, multi-storey structures created for the purposes of residential, commercial, business, etc., with a bottom open floor are a common feature. For all purpose of parking, commercial like food bazar, shopping malls, recreational purposes and in architectural view, the frames are intact unfastened without any constructions, besides the columns that switch the constructing weight to the bottom. The behaviour of a constructing at some stage in earthquakes relies upon significantly on its average shape, length, load path and geometry, moreover to but the earthquake or seismic forces are carried to the bottom of building.

The floating columns are used for the reason of attractive architectural view of structure and placement situations for columns in the building. It may be modelled and analyzed with the aid of using the usage of STAAD Pro, ETABS and SAP2000 softwares. The provision of floating columns may be considered as usual feature in most of the structures for protecting the most feasible region from the point of architecture purpose. In cities, multi storey structures are built with the aid of using floating columns on the floor ground for the diverse functions that are said above.

## 2. FLOATING COLUMN BUILDINGS

The columns are meant to be a vertical member beginning from base and transferring the weight to the floor. The vertical member or columns which rest on a beam and does not have touched to base is generally called as floating column. The column starting from the upper storey without touching to the base of the building will transfer load to the slab below to it. A column is constructed from the base is discontinued on the above, some members are starting from the above storey, typically on the ground or first floor storey. Usually those high-rise and architectural complicated homes confirmed a least serviceable behaviour all through beyond earthquakes. Generally, the behaviour of a constructing all through earthquakes is primarily based totally upon specifically on its traditional shape, length and geometry, further how the earthquake forces carried to the floor.

# Analysis of Soft Storey Buildings Using SAP 2000vs20

Sarvesh Manthagond<sup>1</sup>, Dr C Nagaraja<sup>2</sup>, Manogna H N<sup>3</sup>

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**Abstract:** Construction of multistorey buildings in metro-politian cities is one among the factor of urbanization. The provision of soft storey at stilt floor level had become the architect feature. These are the framed structures without masonry walls designed irrespective of the structural concern to strength and stability of storey. It is used for the multi-purposes such as parking areas, open space, commercial complex, lobbies, large meeting halls and other utility purposes. The upper storey of the building with infill walls are stiffer than the bottom storeys which behave as a single block. During seismic conditions, more stress and loads are transferred to the structural members of soft storey. due to an inadequate load bearing capacity of structural members, it leads to failure of beams and columns proceeding to deflection, deformation and even some times to failure of the building in toto.

In the present study, a multistorey building is created using SAP 2000vs20 software. The building is designed considering codal provisions. The behavior bare frame building, Infill building and soft storey building are studied in various seismic zones for different soil conditions. The performance of the building in zone IV and zone V are graphically represented against hard soil, medium soil and soft soil for seismic parameters namely, lateral displacement, storey drift, base shear, stiffness of the building. Comparative study is carried out for the seismic parameters with respect to storeys, zones and different soil conditions.

**Keywords:** Soft storey.

## 1. INTRODUCTION

In modern times, the concrete framed structures have a completely unique feature that is the bottom storey is left open for the aim of particular goals like vehicle parking, reception lobbies and so on. Such storey is generally referred as open ground storey building or flexible storey buildings. Soft storey as a whole much strained than the storey's higher than are considerably at risk of earthquake harm because of massive, unreinforced open place on their ground floors. However, from a seismic point of view, overall performance of soft storey turns to failure condition due to irregularity in structure and un equal distribution of loads over a storey. Most of the horizontal displacement of the building takes place in the soft storey itself.

The performance of soft storey is associated with several reasons such as non-integrity in structure, unequal distribution of forces, foundation, topography of land, soil properties of site etc. By considering all the aspects, the design of soft storey is done by adopting certain code provisions, loads to be considered and ensuring all parameters to be within permissible limits such as shear force, torsion, distribution moments. To satisfy all the requirements, design softwares are being used, that helps to achieve desired results. SAP2000 software is made used in current study for analysis of buildings. This software has specialized application in design and analysis of structures under various soil condition for different seismic zones II, III, IV and V. It requires more time for data post-processing to achieve the desired outcomes for storey drift, base shear, ground acceleration, ground motions and so on.

## 2. SOFT STOREY

Soft storey is the one among the multi storey building, which is more flexible or weak storey that have inadequate resistance to lateral displacement or strength that is most predicted to get failure during earthquake conditions. This kind or feature of constructions is often seen in metro cities. It is because of lack of space for versatile utilities such as vehicular parking, assembly halls, shops, marketing complex etc. It is also one of architect style of construction that made provision of the soft storey. Since the soft storey is left open without masonry wall construction it is structurally unsafe and failure is expected more in seismic prone areas.

*Sarvesh Manthagond*

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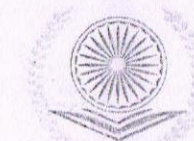
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# A Study On Brand Awareness With Reference To Maruti Suzuki Ciaz In Tumkur

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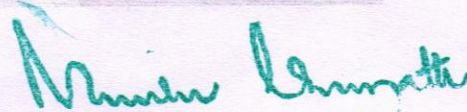
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## INTRODUCTION OF THE STUDY

According to Aakar, "Brand awareness is a process from where the brand is just known to a level when the consumers have put the brand on a higher rank, the brand has become the top of mind ". Every firm has to adopt strategies to keep its brand in consumer's memory. It is related to



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## A Study On Performance Evaluation of Selected Equity Diversified Mutual Fund Schemes in India

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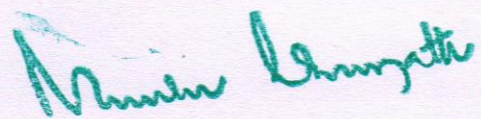
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**Basavaraja K T**

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### INTRODUCTION

The Mutual fund industry is among the most successful recent financial innovations. A Mutual fund signifies vehicle for combined investment. When you partake in system of mutual fund you become part owner of the investment held under that scheme. A mutual fund will buying & selling securities one the basis of deliveries. It can't make short sales or engage in carry forward transaction. The mutual fund holder unit acquires a relational portion of the



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## A Study On Customer Satisfaction towards Bharat Benz Products”

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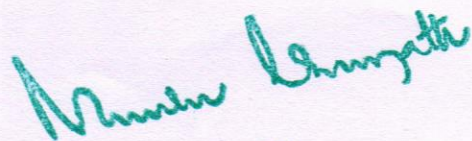
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### Introduction

Customer satisfaction, a term frequently used in marketing, is a measure of how products and services supplied by a company meet or surpass customer expectation. Customer satisfaction is defined as "the number of customers, or percentage of total customers, whose reported experience with a firm, its products, or its services (ratings) exceeds specified satisfaction goals." It is seen as a key performance indicator within business and is often part of a Balanced Scorecard. In a competitive marketplace where businesses compete for customers, customer satisfaction is seen as a key differentiator and increasingly has become a key element of business strategy.

"Within organizations, customer satisfaction ratings can have powerful effects. They focus employees on the importance of fulfilling customers' expectations. Furthermore,



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# A Framework for Food recognition and predicting its Nutritional value through Convolution neural network

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**Abstract**— A succession of improvements in image processing have been aided by deep learning. There were considerable advancements in the use of deep learning techniques in food image categorization. However, just a few studies on the classification of food ingredients have been conducted. As a result, this study provides a new method that not only extracts rich and effective characteristics from the given datasets, but also automates the process. Using Convolution Neural Network (CNN), we propose an automatic multi-class categorization and recognition.

**Keywords**— recognizing food image, food quality, healthy food, ingredients, nutrient value, CNN.

## 1. INTRODUCTION

Food has always been a vital need in human life, and it has piqued people's interest in new ways. Food supplies now rely on human visual inspection to assess certified food ingredients and accurately label them. This procedure is extremely time-consuming, arduous, and pricey. As a result, a food detection system capable of automatically distinguishing certified food ingredients is essential. Image processing and recognition are now making rapid progress in a variety of applications, including surveillance systems, medical imaging, and remote sensing, to mention a few. Several studies have shown that machine learning and data mining approaches may be used to automatically distinguish food photos. However, the current food detection method focuses primarily on *flavor*.

Food meals make up the majority of available datasets. There are currently just a few food item picture datasets available, resulting in a limited amount of work on multi-class categorization of food item photos. Using Convolutional Neural Networks, we proposed an automatic multi-class categorization system (CNN). Many

existing methods for human recognition that show promise can't adequately reflect the diversity of food classes with complicated interclass variability and intra-class similarities. There are several techniques to solving this challenge, each with its own set of benefits, as well as the drawbacks. The proposed method creates complex features that better reflect and distinguish sample images, although constructing such a feature is difficult and problem-specific. The information is used for decision-making rather than complicated representation. We show in this study that the proposed method creates complex features that better reflect and distinguish sample images, although constructing such a feature is difficult and problem-specific. The information is used for decision-making rather than complicated representation. We show in this study that challenge, each with its own set of benefits, as well as the drawbacks. The proposed method creates complex features that better reflect and distinguish sample images, although constructing such a feature is difficult and problem-specific. The information is used for decision-making rather than complicated representation. We show in this study that the proposed method can be used to solve a variety of classification and recognition challenges. We believe that by combining the data from two different types of categorization systems, the performance rate can be improved. We build classifier systems based on characteristics retrieved from CNN for this purpose. A food-forward artificial neural network is a sort of convolutional neural network.

The structure of the visual cortex inspires the connection patterns between its neurons. Individual cortical neurons only respond to stimuli in a small area of the visual field called the receptive field. Different neurons' receptive areas partially overlap, allowing them to encompass the whole visual field. In comparison to other types of neural networks, CNNs need a similar amount of pre-processing. This means that the network uses the filters that were previously hand-engineered in traditional

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# SparkGrid:Blockchain Assisted Secure Query Scheduling and Dynamic Risk Assessment for Live Migration of Services in Apache Spark based Grid Environment

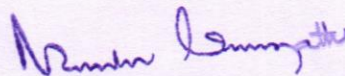
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**Abstract**—Grid computing is an emerging technology that enabled the heterogeneous collection of data and provisioning of services to the users. Due to the high amount of incoming heterogeneous request, grid computing needs an efficient scheduling to reduce execution time and satisfy Service Level Agreement (SLA) and Quality of Service (QoS) requirements. For that purpose, we proposed SprakGrid method to reduce execution time and satisfying SLA, QoS requirements. The proposed work includes four consecutive phases which are explained as follows, in first we perform user authentication in order to ensure the legitimacy of the users using Elliptic Curve based Chaos Theory (ECCT) algorithm which generate secret key and stored it into the blockchain. In second we perform query scheduling for resource discovery using Soft Actor Critic (SAC) algorithm by considering 3P's parameters which is performed by spark environment that schedules optimal resources based on the service request. In third, we perform risk assessment and request dropping, in which the risk nodes of workers are evaluated by master node. To address the resource wastage by attacker, this research evaluates the risk value in a dynamic manner using Shannon entropy. Based on the risk assessment the requests are classified into two classes such as normal and malicious. In fourth we perform service live migration, in which the malicious requests are dropped and normal request are migrated from source node to target node using Multi-Constraints based Emperor Penguin Optimization (MC-EPO). Finally, simulation is performed by GridSim and the simulation results demonstrate that the proposed SparkGrid method achieves superior performance compared to other state-of-the art methods.

**Keywords**—Query scheduling, Risk assessment, Service live migration, Apache spark, Grid computing, Blockchain



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