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Page No 8 to 28

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S.NO	TITLE OF PAPER	NAME OF THE AUTHOR/S
1	IMPACT OF CORPORATE SOCIAL RESPONSIBILITY ON THE FINANCIAL PERFORMANCE OF TATA CONSULTANCY SERVICES LIMITED	C. NITHYA D. E.NIRMALA
2	CURRENT STATUS OF BRAIN CANCER-A SYSTEMATIC REVIEW	M. DURGA
3	EFFECTS OF QUERCETIN ON ULTRAFINE PETROL EXHAUST NANOPARTICLES INDUCED DNA DAMAGE, OXIDATIVE STRESS AND INFLAMMATION IN DIFFERENT SECTIONS OF RAT BRAIN	M.DURGA , BRINDHA BANU, VICTORIYA SALOMI
4	COMPUTATIONAL APPROACHES FOR SCREENING FOR BACTERIAL INHIBITORS FROM THE PLANT MALABAR NUT	M.NISHANDHINI
5	ANALYSIS OF FOOD CALORIE USING EXTENDED KALMAN ALGORITHM AND NOVAL HYBRID DEEP-LEARNING FRAMEWORK	S.ANUSUYA
6	A DETAILED OVERVIEW OF RETINAL DETACHMENT AND FEATURE SELECTION	L.POONGOTHAI
7	ANALYSIS OF RETINAL DETACHMENT SEVERITY USING RDIDEAN EVALUATIVE SYSTEM AND CLASSIFIER ASSESSMENT IMPLEMENTATION MODELS	L.POONGOTHAI
8	FACE ROUTING IN WIRELESS AD-HOC NETWORKS	R. SRIVIDHYA
9	AUTOMATED VEHICLE NUMBER PLATE (VNP) DETECTION BASED ON OPTIMIZED SEGMENTATION AND MACHINE LEARNING"	V.R. VIJU
10	A LIGHT WEIGHT SELF-ADAPTIVE HONEY ENCRYPTION FOR USER AUTHENTICATION SCHEME IN CLOUD-IOT HEALTH SERVICES	P.RENUKA DEVI
11	SURVEY OF MACHINE LEARNING ALGORITHMS FOR DISEASE DIAGNOSIS MULTI-CLASS CLASSIFICATION OF MEDICAL DATA	P.RENUKA DEVI
12	A SURVEY ON BLOCKCHAIN SECURITY SYSTEM AND PROACTIVE INTEGRITY PROOFING MODEL IN CENTRALIZED CLOUD ENVIRONMENT	K.GANGADEVI
13	A STUDY ON ONLINE MARKETING- AFTER LOCKDOWN	K.RENUKA
14	ENVIRONMENTAL COLONIALISM: A STUDY OF AMITAV GHOSH'S " THE LIVING MOUNTAIN"	K.V.PRIYA
15	'RECONCEIVING BARBARA KINGSOLVER'S ANIMAL DREAMS FROM AN ECOCRITICAL PERSPECTIVE'	E. RAJALAKSHMI
16	IMPORTANCE OF INCLUSIVE EDUCATION AND PEDAGOGIES FOR AN EFFECTIVE CLASSROOM	SARJANA



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17	SHADES OF MARRIAGE: A COMPARATIVE STUDY OF SUDHA MURTY'S MAHASHWETA AND DISNEY'S CINDERELLA (1950)"	AKSHAYA
18	'A STUDY OF THEME OF MARRIAGE IN SELECT NOVELS OF SUDHA MURTY'	AKSHAYA
19	SHIKHANDI- THE DETERMINED: A QUEER PERSPECTIVE ON THE REWRITINGS OF THE MAHABHARATA	S. NANTHINI
20	IMPACT OF CORPORATE SOCIAL RESPONSIBILITY ON THE FINANCIAL PERFORMANCE OF TATA CONSULTANCY SERVICES LIMITED	C. NITHYA E.NIRMALA
21	THIRD ORDER DIFFERENTIAL SUBORDINATION ASSOCIATED WITH JANOWSKI FUNCTIONS,	D. AGNES S.J. LAVANYA, M.P. JEYARAMAN AND H. AAISHA FARZANA

IMPACT OF CORPORATE SOCIAL RESPONSIBILITY ON THE FINANCIAL PERFORMANCE OF TATA CONSULTANCY SERVICES LIMITED

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Abstract: In this article an attempt has been made to analyze the impact of Corporate Social Responsibility on the financial performance of a software company in India. This is a case study of Tata consultancy Limited for a period of five years from 2018-2022. Success of a business goes beyond earning profits, brand recognition and becoming market leader. In today's world, the stakeholders judge a company not only by its profit earning capacity, but also by its activities to serve the community. CSR has the potential to make a company more competitive, lower financing costs, and increase financial performance and overall economic value. The present study reveals the Corporate Social Responsibility initiatives undertaken by Tata Consultancy Services Limited and analyses the impact of Corporate Social Responsibility on the financial performance of TCS. The Present study is based on secondary data collected from company's annual report and CSR reports for five years from 2018 to 2022. Hypotheses were framed to analyze the CSR spending and the company's financial performance in terms of Profit before Tax, Return on Assets, Return on Equity and Return on Capital Employed using correlation technique.

Keywords: Corporate Social Responsibility, Financial performance, Profitability, Impact of CSR

Introduction

Corporate social responsibility (CSR) is a self-regulating business model that helps a company be socially accountable to itself, its stakeholders, and the public. CSR spending is mandatory for all the profit making companies in India. CSR is equally valuable both for the society and the company. The CSR framework adopted in Section 135 of the Companies Act, 2013 is premised on the principle that profitmaking enterprises should contribute a prescribed amount to social and environmental causes such as eradicating hunger and poverty, promoting education and gender equality and promoting health care. This Section states that every company having net worth of Rs. 500 crore or more, or turnover of Rs. 1,000 crore or more or net profit of rupees five crore or more during any financial year, shall constitute a CSR Committee of the Board consisting of three or more Directors, including at least one Independent Director, to recommend activities for discharging corporate social responsibilities in such a manner that the company would spend at least 2 per cent of its average net profits of the previous three years on specified CSR activities. Only CSR activities undertaken in India would be taken into consideration and activities meant exclusively for employees and their families would not qualify. CSR helps to improve company's reputation and increase the value of the firm

Review of Literature

Abilasha and Madhu Tyagi, 2019 have analysed the effectiveness of New Companies Act, 2013 with respect to CSR and examine its impact on financial performance of selected 10 Indian companies. They have analysed the financial ratios such as profit before tax, return on capital employed, return on Equity and return on Assets. The impact of CSR on overall financial performance is significantly positive with respect of financial ratios like PBT, ROC, ROA, ROE but individually insignificant. When CSR contribution increases, the company's financial performance increases and vice-versa.

Harish Tigari, 2017 has examined the corporate social responsibility initiatives undertaken by Reliance Industries Limited, and emphasizes the importance of CSR by analyzing the different social welfare schemes introduced by the company in India.

Review Paper:

Current Status of Brain Cancer - A Systematic Review

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Abstract

The brain is the most important sensory organ in living organisms. In this review, we have discussed brain cancer, the seventeenth most common cancer occurring globally. This review discusses the most recent data about brain cancer, its types, risk factors, biomarkers, methods of diagnosis and its treatment.

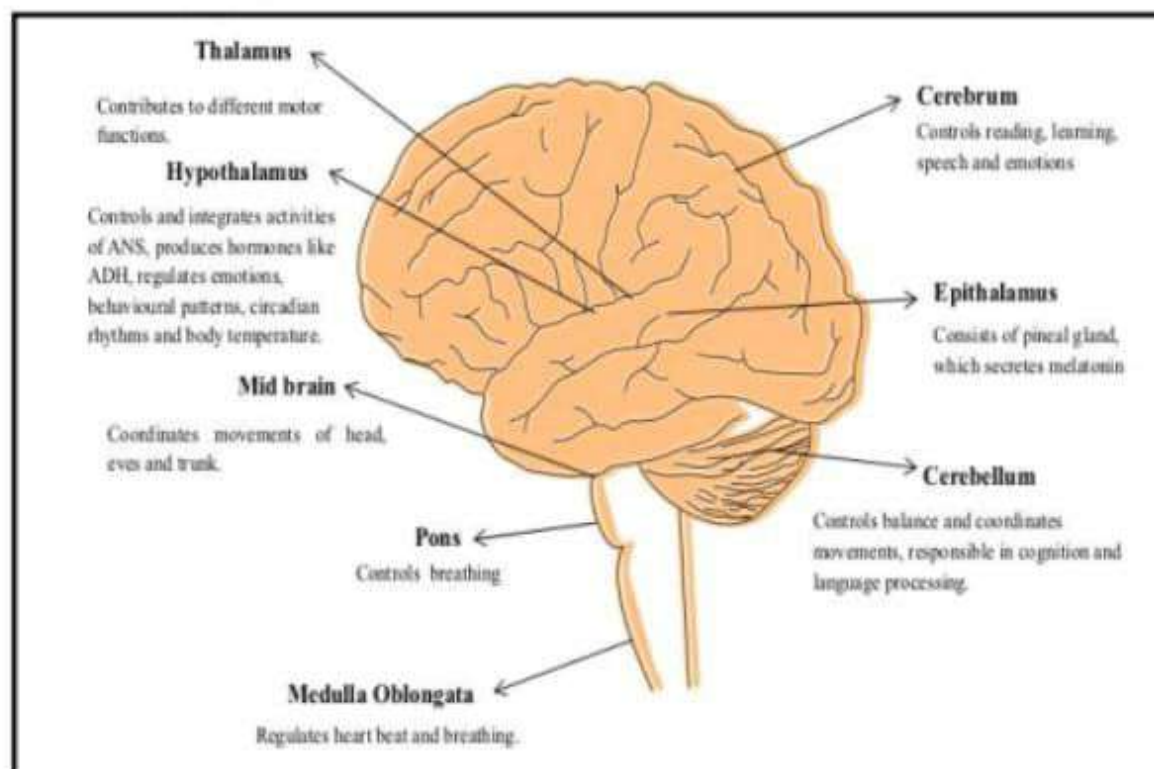
Keywords: Brain, Glioma, Glioblastoma, Pituitary carcinoma, Metastatic brain carcinoma, MGMT, PTEN.

Introduction

The phrase "brain cancer" or "intracerebral nervous system malignancy" refers to a wide group of uncommon conditions that may be characterised in a number of ways based on their type, etiology, growth and developmental status (or stages of development)¹⁶. A neoplasm in the brain may be neoplastic in nature¹⁷. Brain tumour cells that are not malignant seldom penetrate healthy tissue surrounding them, have well-defined boundaries and develop at a sluggish rate. Meningiomas, pituitary adenomas and gliomas are examples of benign brain tumours. Malignant brain tumours, on the other hand, swiftly spread to other regions of the brain or spinal cord that are affected exhibit a lack of defined boundaries as well as rapidly proliferating cells.

Astrocytomas, oligodendrogliomas and high-grade astrocytomas are examples of invasive brain tumours. According to how they and exhibit themselves, they are further divided into two types: primary and secondary brain tumours (metastatic). In its most basic form, a predominant brain tumour is a complicated collection of uncommon illnesses that begins in the brain.

In the case of secondary brain cancer, often referred to as metastatic brain cancer, the disease begins elsewhere in a portion of the body as well as continues to metastasis to the intracranial system as the disease develops. As per the WHO, CNS neoplasms are categorised based on the kind of their grade instead of their phase of development. The level of invasive brain cancer can also be used to distinguish it from other types of cancer. When it comes to brain tumours, the level is decided by the rate of malignant tumorigenesis. This may vary from low to high. The level is further split into four groups based on cell motility. They may also be classified according to their phase of evolution (0, 1, 2, 3, 4). Despite the fact that malignant tumours are few in stage 1, they should not penetrate adjacent cells. A rapid invasion of tumour tissues occurs in stage 2 and 3 and the tumour cells rapidly metastasize in stage 4. It would be in Asia, where the main threat of starving to death from brain cancer exists¹⁸.





Original article

Effects of quercetin on ultrafine petrol exhaust nanoparticles induced DNA damage, oxidative stress and inflammation in different sections of rat brain



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ABSTRACT

The major constituent of air pollution is petrol exhaust a complex mixture of particles, gases and chemicals. The aim of the current research was to evaluate whether ultrafine petrol exhaust nanoparticles (PENPs), the particle component of exhaust from petrol engines can induce neurotoxicity in rats. We administered rats with repeated doses of PENPs (90 µg/rat and 180 µg/rat for 6 days (every second day) intratracheally (i.t.). This was followed by the evaluation of several neurotoxicity parameters in various sections of rat brain. PENP exposure caused surge in levels of inflammatory mediators such as reactive oxygen species (ROS) and neurodegenerative disorder indicators like amyloid beta 42 (Aβ42) levels in rat brain. Each section of the brain responded differently upon PENP exposure. Prior treatment with quercetin (60 mg/kg b.wt) inhibited elevation in the aforementioned parameters. Hence, PENP exposure was closely linked to neurotoxicity and the neuroprotective capacity of quercetin was also proved.

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1. Introduction

Particulate matter (PM) of airborne origin is the most important constituent of air pollution in urban areas and is found associated with increased incidence of diseases such as cardiovascular and respiratory disorders. Emissions from vehicle exhaust are the

major contributors to PM air pollution. According to the size, PM can be categorized into ultrafine particles in size range lesser than 0.2 µm, fine particles in size range lesser than 2.5 µm (PM_{2.5}) and coarse particles of size that ranges between 2.5 µm and 10.0 µm in diameter. Worldwide PM air pollution has been reported to have caused 3.3 million deaths annually (Ronkko and Timonen, 2019).

Crucial constituents of PM_{2.5} comprise petrol exhaust nanoparticles (PENPs) and the diesel exhaust nanoparticles (DENPs). Both vehicle fuels, petrol and diesel in automobile engines, undergo combustion and produce combustion-derived nanoparticles, and diesel is found to emit more particles/unit of fuel compared to petrol and is widely studied out of the two in regard to adverse health issues. Previous studies also revealed that diesel exhaust particles (DEPs) are more toxic compared to the petrol exhaust particles (PEPs) in regard to the crucial fact that the diesel vehicles are the

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Computational approaches for screening for bacterial inhibitors from the plant Malabar nut

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Abstract

Bacterial infections are a growing world-wide problem. Bacterial infections are now known to assassinate annually more people than malaria. One of the best practices of the ancient time for the treatment of bacterial infection was Ayurvedic. On analyzing the latest survey about the plant possessing the antibacterial activity, it was identified that the plants Malabar nut possess various pharmacological properties. The native of the plant was India and was commonly called as *Adusa* which belongs to the family of *Acanthaceae*. In the current research work, totally 102 phytochemical compounds were retrieved from the plant Malabar nut through literature survey. Using PubChem databases, the two dimensional structure were identified only for 84 compounds. Virtual screening was carried out for these compounds and the result predicted that only 28 compounds were screened to be active drug molecules. The bacterial protein Cytochrome P450 14-alpha-sterol demethylases (CYP51) was responsible for most of the bacterial disease caused to human. Using PDB databases, the three dimensional structure of the protein were retrieved which were further used for docking process. Out of 28 compounds only 1 compound predicted the best binding interaction with the protein using docking software.

Keywords: Malabar nut, Antibacterial activity, Phytochemical, Protein Cytochrome P450 14-alpha-sterol demethylases, Docking

INTRODUCTION

Bacterial pathogens have a significant impact on public health. Any part of the body can develop disease, and it can be brought on by the organism itself or by the body's reaction to its existence¹. Humans can contract bacteria via the air, water, food, or living things. The main means of bacterial infection transmission are contact, aerosol, droplet, vectors, and moving vehicles². Morbidity and mortality are significantly impacted by preventive strategies. As we encroach into new environments, new species and novel variations of well-known species continue to be discovered³. Disease-causing pathogenic microorganisms have properties that enable them to sidestep the body's defenses and utilize its resources⁴. Last but not least, virulence refers to an organism's potential to spread disease through traits including invasiveness and toxin production⁵. In determining whether a disease will spread after a bacterial agent has been transmitted, host factors are crucial⁶. These variables include genetic make-up, nutritional status, age, length of organism exposure, and co-occurring diseases. Antibiotic resistance among bacteria is a rising issue that necessitates careful usage of antibiotics^{7,8}.

Adhatoda vasica Nees (*Acanthaceae*), sometimes referred to as *Adusa* or the Malabar nut tree⁹. The Assam, Bangladesh, India, Nepal, and Sri Lankan subcontinents, Laos, and Myanmar make up the natural range of the Malabar nut¹⁰. Many alkaloids, phenolics, flavonoids, sterols, and their glycoside derivatives have been identified from the well-known medicinal herb Malabar nut. Its wide range of therapeutic effects include hepatoprotective, antimicrobial, antitussive, abortifacient, antitubercular, antimutagenic, antiulcer, antiasthmatic and cardiovascular protection^{11,12}. It is commonly used in South-East Asian traditional and folk medical systems, and it is also a well-known plant medication in Ayurvedic and Unani medicine¹³.

The protein that was found to cause of the bacterial infections in human was Cytochrome P450 14-alpha-sterol

Analysis of Food Calorie using Extended Kalman Algorithm and Novel Hybrid Deep-Learning Framework

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Abstract—Food calorie detection forms to be the crucial aspect of an individual's quotidian life. With the rapid escalation of diseases, it is cardinal for an individual to explicitly manage their diet, and pivot toward a healthy lifestyle. Food images have been instrumental in rendering large amount of information pertaining the calories they hold, and thus aid in balancing the intake of a person. In order to obtain the pinnacle of accuracy in obtaining the calorie of the food to be consumed. This study focuses to enhance the image quality of processing food, along with comprehending the detection mechanism used to analyse the impact the food would have on the body. The incorporation of gaussian noise elimination as pre-processing mechanism to ameliorate the image quality, along with CNN and Kalman filter algorithm is implemented to train, test and predict the calories present in the food. A phase of verity used in this study is the entailing of regression to effectively evaluate the actual versus the predicted calories obtained from the food images. The results for this indagation are procured through MATLAB, and is successful in establishing the novelty through the novel hybrid layers effectuated with CNN, in order to augment the wholistic efficacy of the research.

Keywords: Food Image processing, Calorie estimation, CNN, Gaussian filter, Kalman Filter Algorithm, MATLAB.

I. INTRODUCTION

Blubber is a term that refers to a thick mass of fat, that could potentially stand as the root cause of various diseases such as obesity, diabetes, cardio-vascular disorders and even cancer. While there is a constant evaluation of dietary supplements in each governing demographic, the neoteric trends in the negligence to physical activities and diverse fat inducing diets have led to a sedentary living style amongst the adolescent and the growing generation. According to the recent study by World Health Organization (WHO) 38.9% of the population are obese [2], and the inclination to the growth in obesity is a measure that must be scrutinized explicitly. The latest technological advancements pertaining disease identification, and the solutions for the same are gargantuan, and therefore it has become facile to identify the perils relevant to health in an earlier stage. However, obesity is a slow burner that although is identified cannot be

controlled unless there is stringent regime, and a calculated analysis of the food consumed. Therefore, while many assume to eat healthy, the quantitative calorie computation [4] is amiss that can mitigate the desired results. There are a valuative dossier of nutritional analysis that has been recorded, but it is easier to hold a tool, that is on the move with facile portability along with rendering precise information on the prepared food that is to be consumed by the individual. This augmented control over the quantity and quality of food consumption can help an individual to stay resilient to various diseases, and parallelly bolster their health parameters to optimal levels.

While there have been multifarious research pertaining the assessment of calories, and the need to analyse nutrient information based on specific tools, the emphasis on effective image processing [7] along with accurate calorie estimation using the algorithmic approach is a necessitate for cost optimal throughput. This research pivots on an overall analysis of estimating the calorie composition of food through the incorporation of deep learning architecture effectuated through Convolution Neural Network (CNN) [1], and pre-processing algorithms. The Kalman filter algorithm [8] augments the segmentation of the food particles, and thereby aids in enhancing the calorie prediction from the food images. However, while most often the color, texture and combinational factors such as size and quality of the image plays a crucial aspect in the determination of the calories, the importance of training and testing the image through various hybrid constructed deep-learning layers [11] enhances the quality of image even with dim lights. The L2 regularization and the learning rate utilized in the training phases greatly influence the accuracy of the training, and in procuring higher precision of food object identification. The automation of calorie detection enables all types of users to effectively utilize the software through just a click of the food.

The paper is structured into section II elaborating the empirical review pertaining the indagation incorporated, while the succeeding sections elucidates the proposed methodology, along with the results, discussion and conclusion in section III, IV and V.

A DETAILED OVERVIEW OF RETINAL DETACHMENT AND FEATURE SELECTION

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ABSTRACT: Retinal blood vessels are an indispensable entity of the human eye. The requirement to effectively protect the eye forms a censorious part of well-being. Images of the eye ground or retina not only provide an insight to important parts of the visual system but also reflect the general state of health of the entire human body. Automated retina image analysis is becoming an important screening tool for early detection of certain risks and diseases like diabetic retinopathy, hypertensive retinopathy, Macular hole etc. Feature selection is the process of reducing the number of input variables when developing a predictive model. It is desirable to reduce the number of input variables to both reduce the computational cost of modeling and, in some cases, to improve the performance of the model. In this book chapter we are going to discuss about the Retinal Detachment, causes and Types of Retinal Detachment and the features to be selected for the further findings.

Keywords: Retinal Detachment, Feature Selection, Diabetic Retinopathy, Blood Vessels.

1. INTRODUCTION:

The retina is the light-sensitive layer of nerve tissue that lines the inside of the eye and sends visual messages through the optic nerve to the brain. A retinal detachment occurs when the retina becomes separated from the rest of the layers of the eye. This usually occurs after you develop a tear in the retina. The extent of permanent damage depends on how much of the retina becomes detached and whether or not the center of the retina (the macula) becomes detached. The macula is made up of special nerve cells that provide the sharp central vision needed for seeing fine detail (reading and driving etc.). If your macula has become detached, you have a poorer visual prognosis and you may not regain good enough vision to read or drive with that eye even after successful surgery.

Analysis of Retinal Detachment Severity using RDidean Evaluative System and Classifier Assessment Implementation Models

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Abstract—Vision loss can be a permanent disability of a human, that could be attributed to due to Retinal Detachment (RD). This is perilous disorder that could be caused due to dealignment of the layers in a retina. The choroid supplies oxygen and nutrients to the outer segments of the photoreceptors. The retina's photoreceptors will stop working if the choroid separates from the retina. The degree of dependence on the choroid is high, due to its supply of oxygen to the fovea that increases the breathability of the retinal blood vessels. This tapering of the oxygen levels can paramount to macula detachment that can be an irreversible damage to the cones and rods at the posterior pole, thereby leading to blindness. If the retina is quickly reattached, good vision can be preserved even if the macula is not removed. Retinal detachment hitherto has been studied through conceptual data processing and image processing techniques. However, this paper analyzes the retinal detachment for an individual through the various features, and the same is encompassed in an equational form to be termed as the "RDidean" evaluative system. The evaluative model thus explicitly categorizes the retinal database into normal and abnormal images based on the value obtained from the system. The performance of this system is then effectuated through diverse tree classifier models and the deep learning AlexNet classifier in MATLAB to comprehend the precision of classification. While effectively entailing another pool of algorithmic models like the SVM variations and the Naïve Bayesian methods to cognize the accuracy of retinal detachment severity that the evaluative system rendered. This indagation analyzes focusses to establish a corroborative and impeccable prediction system for the classification of normal and abnormal eye through color fundus images. Thereby aiding to improve the ergonomic environment of clinicians to improve the treatment plan, along with delivering complementary clinical decisions, and in institutionalizing affordability for patients through optimal cost for agnizing retinal detachments.

Keywords: Retinal detachment, Fundus Image, RDidean evaluative system, MATLAB, Tree classifier, AlexNet, SVM, Naïve Bayesian.

I. INTRODUCTION

Neoteric times have entailed technological advancements that have widened the opportunities on the detection of colossal diseases, and tapered the detriments associated with them in a gargantuan scale. The recent pandemic escalated the severity of certain gremlins due to various reasons. One such corporeal dysfunction is the eye-relevant malfunctions that are observed in both adult and children owing to longer screen time and less respite to the health of organ. Retinal Detachment (RD) is one such ophthalmological detriment that is lesser symptomatic, but can eventually lead to loss of vision. The classification of detachments can be unilateral and bilateral, with the latter leading to permanent vision loss and irreparability. The necessity to entail prompt examination of fundus images, and their relative ophthalmoscopic functionalities is crucial on a periodical basis. While until the previous decade, the commonality of retinal detachments was lesser in ratio¹, the detriments caused by retinal detachments has increased multifold in the present decade. The structural positioning of the retina is seen in the inmost layer, with various tissue layers out coating the retinal segment. The layer closest to the retina is the choroid, and the farthest is the vitreal crater. The pigmented epithelial tissues keep the retina intact with the surrounding layers, and is bound by neurosensory retinal cells. The photoreceptors are another vital component of the eye, with their primary function being to obtain essential strengthening to support the encompassed layers. It is positioned on the outer layer, with its connection established to the innermost segments through the fovea. While many perceive the fovea to be just another supporting component that does not comprise of any retinal cells, its connection with the choroid necessitates the passing of essential oxygen to bolster the nutritional supplement for the photoreceptors. When this functioning is not smooth, a relative level of

FACE ROUTING IN WIRELESS AD-HOC NETWORKS

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Abstract

The face routing is a simple method for routing in wireless ad-hoc networks. It only uses location information about nodes to do routing and it provably guarantees message delivery in static connected plane graphs. However, a static connected plane graph is often difficult to obtain in a real wireless network. Here, it extends face routing to more realistic models of wireless ad-hoc networks. We present a new version of face routing that generalizes and simplifies previous face routing protocols and develop techniques to apply face routing directly on general, nonplanar network graphs. We also develop techniques for face routing to deal with changes to the graph that occur during routing. Using these techniques, we create a collection of face routing protocols for a series of increasingly more general graph models and prove the correctness of these protocols. We presented our research on extending face routing to more general models of wireless ad-hoc networks. In order to investigate the extensibility of face routing, we developed a series of models with increasing generality. One important part of our research is to find appropriate models through which we can better understand the difficulties of routing problems in more realistic network graphs than unit disk graphs. The graph models we considered gradually incorporate aspects of real networks, which enabled us to identify different types of problems, to gain an understanding of the capability and limitations of face routing, and to find techniques to extend the original face routing protocols.

Keywords—Face Routing, Ad-hoc.

I. INTRODUCTION

As users are increasingly mobile it is more and more common for users to meet and communicate without prior planning, and in environments where there is little or no networking infrastructure. For example, business meetings often require documents to be exchanged and it could happen in a cafe or at the airport. In such situations it is difficult and inconvenient to set up a local area network (LAN) as the network will need to be created on the fly. Such a network is known as an ad hoc network where the network is of a dynamic nature without centralised administration.

Current technologies can form ad hoc networks but is limited in that only single hop network scan be formed. This means that each node can only act as a host sending directly

to the destination. In a multi-hop ad hoc network, all nodes act as routers and neighbouring nodes will forward packets to the final destination.

This paper concentrated on the problem of adding multi-hop capabilities to the existing ad hoc network platforms.

II. RELATED WORK

“A “mobile ad hoc network” (MANET) is an autonomous system of mobile routers (and associated hosts) connected by wireless links—the union of which form an arbitrary graph. The routers are free to move randomly and organise themselves arbitrarily; thus, the network’s wireless topology may change rapidly and unpredictably. Such a network may operate in a stand alone fashion, or may be connected to the larger Internet.” The fundamental difference between fixed networks and MANET is that the computers in a MANET are mobile. Due to the mobility of these nodes, there are some characteristics that are only applicable to MANET. Some of the key characteristics are described below :

1. Dynamic Network Topologies: Nodes are free to move arbitrarily, meaning that the network topology, which is typically multi-hop, may change randomly and rapidly unpredictable times.
2. Bandwidth constrained links: Wireless links have significantly lower capacity than their hardwired counterparts. They are also less reliable due to the nature of signal propagation.
3. Energy constrained operation: Devices in a mobile network may rely on batteries or other exhaustible means as their power source. For these nodes, the conservation and efficient use of energy may be the most important system design criteria. The MANET characteristics described above imply different assumptions for routing algorithms as the routing protocol must be able to adapt to rapid changes in the network topology. They also present different optimisation parameters such as bandwidth overhead and energy usage.

III. PROPOSED WORK

An ad hoc network is a network that can be formed without the need for any preexisting networking infrastructure. Mobile ad hoc networks (MANET) describes such a network. The IETF MANET Working Group

R. Radha ; V.R. Viju **All Authors**

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Abstract

Document Sections

- I. Introduction
- II. Literature Survey
- III. Proposed Methodology
- IV. Results and Discussion
- V. Conclusion

Authors

Abstract:

Vehicle number plate (VNP) detection is a rather difficult operation unless we assume the use of a static camera, fluctuations in illumination, known VNP templates, ensured color patterns, and other simple assumptions. Practical applications require robust and generalized VNP detection methods to meet complex situations. By treating the vehicle VNP as an object, this research presents an innovative solution to this problem. The primary purpose of this study is to address the following VNP detection challenges: (1) VNP detection in each frame of an image sequence, (2) partial VNP detection, and (3) VNP detection by moving cameras and cars. This research compares a segmentation method for Artificial Neural Fuzzy Inference System classification against a variety of traditional methods and state-of-the-art object identification approaches (ANFIS). The expectation maximum (EM) approach can be used to compute the ANFIS parameters. A high recognition rate can be attained with this strategy. Extensive tests and comparisons show that the experimental results outperform standard methods.

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Feedback

A Light Weight Self-Adaptive Honey Encryption for User Authentication Scheme in Cloud-IoT Health Services

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Abstract

The recent advancement in cloud computing and Internet of Things (IoT) paradigms, paves a way to support the patients through remote monitoring and they can enjoy their health services at home. The medical professional (MP) needs to analyze IoT health data or Electronic Health Records (EHR) from a cloud server using their authorized login credentials. However, the Cloud-IoT network is vulnerable to many malicious attacks, it is necessary to make strong user authentication. Therefore, strong user authentication is a prerequisite for a successful global deployment of centralized healthcare systems. In this paper, we present a secure, efficient authentication protocol to allow MPs to access patient data through a Cloud IoT network. The proposed protocol contains Light Weight Self-Adaptive Honey Encryption (LWSHE) for securing the Internet of Things (IoT) medical data in a cloud server. The traditional Honey encryption algorithm has a message space limitation problem which is overcome through a discrete distribution function in Distribution Transforming Encoder (DTE) which maps the plain text strings into the seed strings. In the honey encryption algorithm, our proposed honeyword generation method can eliminate storage overhead and typo safety problems. Based on the result of the security and performance comparison analysis, the proposed protocol does not only prevents the vulnerable attacks from being performed but also achieves more complex security operations and efficient user authentication.

Keywords: cloud computing, Internet of Things (IoT), Electronic Health Records (EHR), Light Weight Self-Adaptive Honey Encryption (LWSHE), Distribution Transforming Encoder (DTE).

1. Introduction

Internet of Things (IoT) involves multiple physical sensors/devices/virtual objects communicating over a public network. The physical objects may include sensors, smart devices, and the virtual objects may include health records, wallets, etc. In essence, IoT aims to improve environmental and social systems accuracy by utilizing a computer-based system. The connected objects or things are intelligent enough to take ingenious decisions without human interference. In healthcare applications, the security and privacy of patients' data are among the biggest concerns. To overcome these issues, medical professional authentication has to be protected strongly with algorithms. To secure the medical data Password-Based Encryption (PBE) algorithm is utilized but it considers a weak password that can be easily attackable with brute force. Honey Encryption (HE) is a user data protection algorithm that can generate valid-looking plaintext if an attacker tries to decrypt it with the wrong key or honeyword and it can deceive unauthorized users.

In the honey encryption process, a set of messages with common features (like credit card numbers, cloud passwords, or other credentials) are protected. It is important to determine the type of message set or message space before encrypting the message. It is necessary to sort the messages before encryption. There are then two measures of probability to determine: the probability of each message in the Probability Distribution Function (PDF) space as well as the Cumulative Distribution Function (CDF) probability. When hackers try to get the ciphertext by guessing one of several incorrect passwords, the HE process produces a honey message. Otherwise, the HE process produces the correct ciphertext. HE redirects hackers with each incorrect guess into a confusing dead end. A key component in HE is the Distribution Transforming Encoder (DTE). The DTE consists of a set of encoding and decoding processes, where encode takes as its input space of plaintext messages M , and returns a value in the seed space S of n -bit strings. During decoding,



Survey of Machine Learning Algorithms for Disease Diagnosis Multi-class Classification of Medical Data

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Abstract

In recent years, machine learning gain prominence in the medical field, business, agriculture, etc. Many clinical experts adopt machine learning or artificial intelligence algorithms to diagnose and classify the disease via medical datasets to secure human life. This survey paper provides insights into the diverse datasets that exist on the disease and its importance. The selection of the correct dataset improves the model performance and prediction rate. We investigate various medical applications published in highly trusted venues in recent years that use Machine Learning (ML) techniques. The outcome of this survey listed the best ML algorithms with their prediction accuracy. Based on the analysis, we found that multi-class datasets provide more in-depth features than binary class datasets.

Keywords: machine learning, dataset, multi-class, binary class

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Introduction

Electronic health record (EHR) data from millions of individuals is regularly gathered by several healthcare institutions. These databases contain various types of information such as demographic, diagnostic, laboratory, medication, and clinical information. EHR data poses challenges for creating accurate analytic models due to the variability of data types, the quality of the data, and the availability of data and labels. Ad hoc feature engineering and expert-defined phenotyping¹ are two labour-intensive processes that are commonly used in health analytics modelling. The models' findings frequently cannot be applied to other datasets or institutions. ML has a substantial impact on a variety of data analytic applications, such as speech and image

recognition, computer vision, and NLB.Feature engineering has been replaced by data-driven feature construction in data analytic modelling. Recent research has confirmed that using ML methods to construct features is a successful process. Several reasons have contributed to an increase in interest in ML for healthcare in recent years. ML algorithms outperform manual methods in many activities, according to researchers in the field of healthcare. In addition, the healthcare business has access to large and complex datasets that can be used to train ML models. ML research is presented with exciting modelling challenges with EHR data.Multi-class classification refers to tasks involving more than two classes in ML. When evaluating and comparing different classification models or ML techniques,



A Survey on Blockchain Security System and Proactive Integrity Proofing Model in Centralized Cloud Environment

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Abstract

Blockchain technology impact of security is a huge development on many businesses based on secured information processing, transactions, and safety to make in communication, and it still affects many places, due to what it can do for privacy levels. Although the characteristics of blockchain technology make security services in a centralized cloud environment, But most of the innovative technology doesn't provide standards security levels from service management. The development of blockchain leads to more security based on cryptographic issues. The exploration focuses on recent development challenges in the Blockchain security system and then summarizes the specific security threats. We consider some ideas in potential research directions based on security improvements. In this review, K. Hao et al. describe the explore integrity proofing using cryptographic security related to Blockchain model technology and its application. With supportive factors consider destroying many technical areas in the future, deals with security factors. However, it will be upgraded in areas that have been discouraged from many new security areas. Security concerns, not only from some unexpected areas but also from distributed/distributed computing issues and information encryption algorithm issues. The resultant of these conventional algorithms produce a different level of terms of analysis that are reviewed on the rest of the sections.

Keywords: cryptography, blockchain security, integrity proofing, information security, cloud computing.

1. Introduction

Cloud computing provides various services that are based on the pay scale to use methods to access different services. The author S. Nepal, S. Chen et al. described that cloud services are provided by Cloud service providers (CSP) based on the application, infrastructure, and platform network technologies. The issue of cloud computing security is so important that cloud computing, especially integrity calibration, can prevent using the differential problem consideration to improve security. Sustainability, Cloud Computing Systems, and Analysis Fixed computing users and

A STUDY ON ONLINE MARKETING- AFTER LOCKDOWN

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ABSTRACT

Online marketing plays a vital role in the current economy. After the Lockdown this online marketing has created a wider market for business. When the Internet usage has increased the demand from the companies for Promotions, Advertisement has become mandatory for their field. However these options for both consumers and companies has continued exploring the online options. Their araised a Retailers and also the wholesalers in lump sum to catch the market. Everyone is surviving with a websites, home page etc. Enhancements in targeting advertising and Understanding how the market and websites maintaining their visitors have become relevant for the users. Due to the technologies available today and the Internet facilities provided by the various networks have become easier for the advertising and the promotions. The Internet is one of the most important tool for the companies, industries to brand their products and also used as a key for Marketing. We are in the world of connectivity were the number of mobiles phones, subscriptions, V-logs has outnumbered the world in Exploring. The number of text messages increases year-by-year, email and instant messenger programs set records each year. All of which points out that people are in need of being in contact with others. When the Internet connects people across oceans and continents, networking pages and blogs, forums and chat rooms are increasing every minute. Most people do not leave their home without their mobile phone, they are scared to miss anything, and want people to be able to reach them for an opinion. Customers are jumping on the chance to be heard in large audiences.

INTRODUCTION

It is the fact that we have undergone the term Marketing and its substantial changes over the recent years, and the key role for the transformation has been played by internet. Internet "refers to the physical network that links computers across the globe. It consists of the infrastructure of network servers and wide area communication links between them that are used to hold and transport the



Environmental Colonialism: A Study of Amitav Ghosh's "The Living Mountain".

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Abstract:

Environmental colonialism are ways in which the coloniser has altered the landscape of the colonised land. It is about the coloniser gradually encroaching the land, learning the secrets of the land from the natives and taking control of the people and the land. In the process they not only manipulate the people but the land too. The end result is the coloniser causing unimaginable damage to the land. This paper will explore the colonial impact on the environment of the colonised in Amitav Ghosh's novel "*The Living Mountain*" (2022). The Anthropoists are the invaders who invade the valley and conquer the *Mahaparbhat* the mountain by slaving the *Varvarois*, the natives. Though the natives are fascinated by the colonisers ideologies and share the secrets of the land, they do realise that their land has been exploited. The analogy is true to any colony of the imperial powers, during the colonial era and can be correlated to man's greed to acquire more wealth. It is a document that sends a signal to warn the world about man's selfish mindset.

Greta Thunberg, a young Swedish autistic environmental activist, in a landmark article gave a clarion call to arrest the damage wrought on the environment the world over at an unprecedented scale. Her lines echoed, "The climate crisis is not just about the environment. It is a crisis of human rights, of justice, and of political will. Colonial, racist, and patriarchal systems of oppression have created and fuelled it. We need to dismantle them

Reconceiving Barbara Kingsolver's *Animal Dreams* from an Ecocritical Perspective

E. Rajalakshmi & Shanthi K. Clement

Abstract

Toxicity and contamination have been a major threat to people living in the current century. This paper intends to critically analyze Barbara Kingsolver's *Animal Dreams* in connection with Lawrence Buell's *Toxic Discourse*. Toxic discourse in fiction demonstrates the writers' concern on environmental degradation with empathetic plots. Barbara Kingsolver is one among the few American writers who explores and presents ecocentric views in an intelligible manner through her artistic acumen. She has created many enticing eco-conscious characters in her fictions. Kingsolver through her characters aims at transforming humankind into better beings promoting harmony between humans and nature. *Animal Dreams* being a narrative, which focuses on sisters' (Codi and Hallie) love and their love for nature, transforms into an eco-narrative disseminating awareness on the resources of nature and their preservation. Codi's unflinching fight towards preserving the river from pollution is a manifestation of her commitment towards mother earth. A conceptual analysis of the novel aids in understanding Kingsolver's text from an ecocentric perspective. This paper by stressing upon the need for a strict land ethic creates an awareness among individuals to be responsible beings.

Keywords : Corporate greed; Ecological awareness; Ecosickness; Memory, nature; Toxic discourse.

Introduction

Anthropocentrism regards humans as the central entity with intrinsic value compared to other entities in the world. This self-centered perception has led to a paradigm shift in the last few centuries with the emergence of awareness towards nature and environment. Jeopardizing the resources of nature has put humankind in a state of endangerment. Ecocriticism as



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**IMPORTANCE OF INCLUSIVE EDUCATION &
PEDAGOGIES FOR AN EFFECTIVE
CLASSROOM**

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INTRODUCTION:

As our nation's classrooms are diverse, it's critical that we foster diversity learning to its greatest potential through customized instruction. Differentiated instruction allows teachers to reach kids with a variety of learning styles in their everyday lessons. Some teachers believe that differentiation leads to additional work; however this is not the case. In



Shades of Marriage: A Comparative Study of Sudha Murty's Mahashweta and Disney's Cinderella (1950)

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Abstract - This paper deals with Sudha Murty's Mahashweta and Disney's Cinderella (1950) movie with special focus on the theme of marriage. This research includes a comparison between the characters of Anupama and Cinderella. The research also examines the reality of marriage in Mahashweta and the fantasy of marriage in Cinderella (1950). Fairy tales often play an accomplice in implanting misleading notions about marriage and 'happily ever after' in the minds of young readers by portraying unrealistic standards when it comes to relationships and marriage. Sudha Murty's Mahashweta showcases the scenario after marriage while Cinderella (1950) ends with the quote "and they lived happily ever after".

Key words: Cinderella, Disney, Sudha Murty, Mahashweta, Anupama, marriage

Fairy tales are imaginary stories that are often didactic in nature. Statistics reveal that fairy tales play a major role in the development of a child's mind. Jane Austen popularly wrote, "It is a truth universally acknowledged, that a single man in possession of a good fortune, must be in want of a wife" (Austen 1), which might still be the case in the majority of Indian households. A historical tracing of fairy tales appear to reveal a pattern of subliminally influencing impressionable young minds, primarily young girls. "Grimm's fairy tales", written by the Grimm brothers, was first published in 1812. Growing up, the majority of the children would have listened to the story of Cinderella. Prince Charming, saving her from the evil step sisters and the evil stepmother, still lives in the hearts of many people. Sudha Murty's novel Mahashweta parallels the plot of Cinderella to a wide extent. Mahashweta by Sudha Murty was published in the year 2000. The plot revolves around its protagonist Anupama whose life parallels that of Cinderella where both of them were

A STUDY OF THEME OF MARRIAGE IN SELECT NOVELS OF SUDHA MURTY**Akshaya R**

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Abstract –

This paper deals with Sudha Murty's Mahashweta, Dollar Bahu and Gently Falls the Bakula with a significant focus on the theme of marriage. The research also analyses the reality of marriage in Mahashweta, Dollar Bahu and Gently Falls the Bakula. Sudha Murty is an exemplary postmodern Indian writer. A study of her novels shed light on the reality of marriages. The female protagonists of Sudha Murthy such as Shrimati, Vinuta and Anupama decided to choose themselves in their marriage at the end of the novel after being taken for granted by their husbands. These novels debunk the fantasy of the modern woman who yearns to strike this perfect balance by mirroring their struggles.

Keywords: Sudha Murty, Mahashweta, Anupama, Vinuta, Dollar Bahu, Shrimati, marriage.

The novel "Mahashweta" exposes the struggle of its protagonist, Anupama, at the hands of her step mother, step sisters, husband, and in-laws as she is attacked from all ends. Marriage was not a bed of roses for her like she thought it would be. The same man who loved her discards her as soon as her beauty is threatened. The notion that women are objectified and commodified for their beauty by their own husbands is portrayed through the character of the pitiable Anupama. Even in the 21st century, the majority of women in India are still facing patriarchal hurdles and are struggling for self identity and dignity after marriage. Money plays a stark role in marriages in "Dollar Bahu" and it controls the actions of Gouramma. It also explores the notion of women being more independent in their marriage in the United States. Vinuta was forced to do the chores after marriage and Jamuna gets to split the chores with Chandru. Sudha Murty has done meticulous work in highlighting the nuances of marriage and how it differs in India and in the United States. "Gently Falls the Bakula " explores the conflicting choice that a woman is forced to make after getting married; the choice between career and family. The protagonist Shrimati is being tormented by her own 'Prince Charming' after turning rags to riches . After giving multiple chances to Shrikant, she hits rock bottom and decides to leave him. This is a result of the common conflict faced by every woman in trying to find the perfect balance between their career and marriage.



Shikhandi -The Determined: A Queer Perspective On The Rewritings Of The Mahabharata

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Abstract - Indian epic stories are countlessly retold in different genres, perspectives and languages for ages. The stories are retold based on socio- political conditions. Epics like the Mahabharata and the Ramayana with modern interpretations evolve as a genre of study. It is an origin of certain customs and is praised for molding the lives of people in India. Many contemporary writers try to decode the myths and redefine the archetypal patterns that are followed till date. This paper focuses on the portrayal of the queer character, Shikhandi of the Mahabharata in Devdutt Pattanaik's *Shikhandi: And the Other Tales They Don't Tell You*. The research explores how the stereotypes are challenged and deflated by Shikhandi. The study also acknowledges Pattanaik's new interpretation of one of the former examples of queer, Shikhandi, without distorting the original framework and giving voices to the marginalized characters of the Mahabharata, in his works. This paper tries to highlight how Shikhandi breaks away from the stereotypical practices, resists gender supremacy, transacts their ideas and emerges as a strong woman to wrestle back against the injustices and humiliations hurled upon her. The intention of this paper is to highlight how Amba and Shikhandi break the historical silence and overpower the men through their actions and decisions, when the need arises.

Keywords - Mythology, Mahabharata, Rewritings, Stereotypes and Marginalization

“ ‘Gender’ now is one of the busiest, most restless terms in the English language, a word that crops up everywhere, yet whose uses seem to be forever changing, always on the move, producing new and often surprising inflections of meaning” (Brodbeck).

IMPACT OF CORPORATE SOCIAL RESPONSIBILITY ON THE FINANCIAL PERFORMANCE OF TATA CONSULTANCY SERVICES LIMITED

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Abstract: In this article an attempt has been made to analyze the impact of Corporate Social Responsibility on the financial performance of a software company in India. This is a case study of Tata consultancy Limited for a period of five years from 2018-2022. Success of a business goes beyond earning profits, brand recognition and becoming market leader. In today's world, the stakeholders judge a company not only by its profit earning capacity, but also by its activities to serve the community. CSR has the potential to make a company more competitive, lower financing costs, and increase financial performance and overall economic value. The present study reveals the Corporate Social Responsibility initiatives undertaken by Tata Consultancy Services Limited and analyses the impact of Corporate Social Responsibility on the financial performance of TCS. The Present study is based on secondary data collected from company's annual report and CSR reports for five years from 2018 to 2022. Hypotheses were framed to analyze the CSR spending and the company's financial performance in terms of Profit before Tax, Return on Assets, Return on Equity and Return on Capital Employed using correlation technique.

Keywords: Corporate Social Responsibility, Financial performance, Profitability, Impact of CSR

Introduction

Corporate social responsibility (CSR) is a self-regulating business model that helps a company be socially accountable to itself, its stakeholders, and the public. CSR spending is mandatory for all the profit making companies in India. CSR is equally valuable both for the society and the company. The CSR framework adopted in Section 135 of the Companies Act, 2013 is premised on the principle that profitmaking enterprises should contribute a prescribed amount to social and environmental causes such as eradicating hunger and poverty, promoting education and gender equality and promoting health care. This Section states that every company having net worth of Rs. 500 crore or more, or turnover of Rs. 1,000 crore or more or net profit of rupees five crore or more during any financial year, shall constitute a CSR Committee of the Board consisting of three or more Directors, including at least one Independent Director, to recommend activities for discharging corporate social responsibilities in such a manner that the company would spend at least 2 per cent of its average net profits of the previous three years on specified CSR activities. Only CSR activities undertaken in India would be taken into consideration and activities meant exclusively for employees and their families would not qualify. CSR helps to improve company's reputation and increase the value of the firm

Review of Literature

Abilasha and Madhu Tyagi, 2019 have analysed the effectiveness of New Companies Act, 2013 with respect to CSR and examine its impact on financial performance of selected 10 Indian companies. They have analysed the financial ratios such as profit before tax, return on capital employed, return on Equity and return on Assets. The impact of CSR on overall financial performance is significantly positive with respect of financial ratios like PBT, ROC, ROA, ROE but individually insignificant. When CSR contribution increases, the company's financial performance increases and vice-versa.

Harish Tigari, 2017 has examined the corporate social responsibility initiatives undertaken by Reliance Industries Limited, and emphasizes the importance of CSR by analyzing the different social welfare schemes introduced by the company in India.

THIRD ORDER DIFFERENTIAL SUBORDINATION ASSOCIATED WITH JANOWSKI FUNCTIONS

M. P. JEYARAMAN, V. AGNES SAGAYA JUDY LAVANYA AND H. AAISHAFARZANA

Abstract. Using the admissibility condition, we obtain certain third order differential subordination results for an analytic function p with $p(0) = 1$ belonging to the class of Janowski functions, $\mathcal{P}[A, B]$. As an application, certain second order differential inequalities involving special functions are obtained.

1. INTRODUCTION AND PRELIMINARIES

Let $\mathcal{H}[a, n]$ denote the class of analytic functions defined in the open unit disc $\mathbb{D} := \{z \in \mathbb{C} : |z| < 1\}$ of the form $f(z) = a + a_n z^n + a_{n+1} z^{n+1} + \dots$, where n is a positive integer and $a \in \mathbb{C}$. We denote $\mathcal{H}_1 := \mathcal{H}[1, 1]$. Let \mathcal{A} be the subclass of $\mathcal{H}[0, 1]$ consisting of all analytic functions f normalized by the condition $f(0) = f'(0) - 1 = 0$. Let \mathcal{S} be a subclass of \mathcal{A} containing univalent functions. Let the functions f and g be analytic in \mathbb{D} , then we say that f is subordinate to g in \mathbb{D} (written $f \prec g$) if there exists a function $w(z)$ analytic in \mathbb{D} with $w(0) = 0$ and $|w(z)| < 1$ such that $f(z) = g(w(z))$ for all $z \in \mathbb{D}$. In particular, if the function g is univalent in \mathbb{D} , then the subordination is equivalent to $f(0) = g(0)$ and $f(\mathbb{D}) \subset g(\mathbb{D})$. Let us denote by \mathcal{Q} the set of functions q that are analytic and injective on $\mathbb{D} \setminus E(q)$, where $E(q) = \{\zeta \in \partial\mathbb{D} : \lim_{z \rightarrow \zeta} q(z) = \infty\}$, such that $q'(\zeta) \neq 0$ for $\zeta \in \partial\mathbb{D} \setminus E(q)$. Further, let the subclass of \mathcal{Q} for which $q(0) = a$ be denoted by $\mathcal{Q}(a)$. The class \mathcal{P} consists of Carathéodory functions $\mathcal{P} : \mathbb{D} \rightarrow \mathbb{C}$ of the form $p(z) = 1 + c_1 z + c_2 z^2 + \dots$ that map the unit disc \mathbb{D} into the region on the right half of the plane. For $-1 \leq B < A \leq 1$, $\mathcal{P}[A, B]$ denotes the class of analytic functions $p \in \mathcal{P}$, such that

$$p(z) \prec \frac{1 + Az}{1 + Bz}$$

and the functions in $\mathcal{P}[A, B]$ are called Janowski functions introduced in [7]. Special functions play an important role in Geometric Function Theory and its related fields. The confluent (Kummer) hypergeometric function $\Phi(a, c; z)$ is given by

$$\Phi(a, c; z) = \frac{\Gamma(c)}{\Gamma(a)} \sum_{n=0}^{\infty} \frac{\Gamma(a+n)}{\Gamma(c+n)} \frac{z^n}{n!},$$

MSC (2020): primary 30C45, 30C80.

Keywords: analytic functions, differential subordination, admissible function, Janowski function, univalent function, Bessel function, Struve function, Lommel function.