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Design and Implementation of Search Engine with Intelligent Web Crawler

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Abstract- Information Retrieval deals in searching and retrieving of information which is stored in documents and it searches the web databases and the Web. A Web crawler is a program which moves around the Internet and saves web documents in a functional way. Using these features as the base, crawler is categorized into three types of techniques: General Purpose Crawling, focused crawling and Distributed Crawling. This paper deals with the history of Web Crawlers, its use in search engines, Design and scope of development in the future with potential problems. The Research work covers two major areas: - Populating a Database (With Web Crawler), Searching from the data store. The accountability of the foremost unit is to move like spider from one location to another and to find the keywords associated with each web page. The second module is web based and focuses on the search function from the database maintained by the first module.

Keywords- Word Stemming, Web Page Crawling, Parsing techniques, Clustering of objects, Search Engines.

I. INTRODUCTION

Providing complete freedom to the server to share data that exists on the internet, the World Wide Web is extremely powerful internet-client server architecture. The organization of the knowledge is in a Hyper-Text Document, as a non-linear text system which is distributed and outsized.

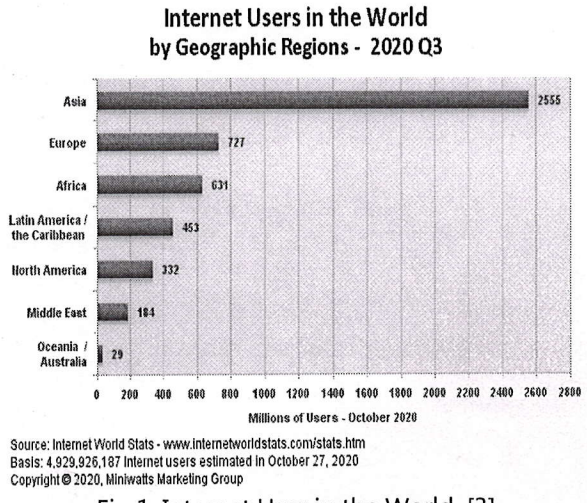

Fig 1. Internet User in the World. [3]

Here, pieces of texts or images are connected to other documents through anchor tags and are characterized as hypertext constituents of a document.

A standard way of retrieval and presentation of hyperlinked documents is by the employment of HTTP and HTML where servers for a required page are found with internet browsers which make use of search engines [1,2]. Ultimately, the pages that the server sends are processed on the client side.

In today's day and age, the internet is an indispensable part of a technology driven human society where a huge amount of knowledge that is present on the World Wide Web is utilised to the fullest extent. In 2020, a whopping 34.4% of the total world population, that is, 4.9 billion people are internet users, a number which rose by 1,226% from a meagre .36 billion in 2000. The proportion of Internet users within Asia itself constitutes 59.5% of the total world percentage as shown in Figure 1. Such drastic rates of growth all point towards the pivotal role that the internet already occupies, and continues to strengthen.

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A Study on Edge Computing Future Perspective and Challenges

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Abstract:

With the quick progression of mobile internet and Internet of Things applications, the customary centralized cloud computing is confronting extreme difficulties, for example, high inactivity, low Spectral Efficiency (SE), and non-versatile machine sort of correspondence. So as to illuminate these difficulties, another innovation came up that moves the capacity of incorporated distributed computing to edge gadgets of systems know as Edge computing. Edge computing, implies processing the information at the edge of the system. Edge computing can tackle the issues of reaction time necessity, battery life imperative, transfer speed cost sparing, just as information security and protection. Through this paper, we try to analyse edge computing and its associated trifecta involving fog computing, mobile edge computing and cloudlets. A brief about these three advancements and their applications are abridged. The differences between mobile edge computing and fog computing are also shown.

Keywords: Edge Computing, Fog Computing, Cloudlet, Mobile Edge Computing, Internet of things

1. INTRODUCTION

1.1 OVERVIEW

Edge Computing is a disseminated processing worldview which conveys PC information stockpiling nearer to the area where it is needed [1]. Computation is to a great extent or totally performed on dispersed gadget nodes. Edge computing decentralizes applications, information and computing power and bring them to areas closer to the client. The objective of edge computing is any application or general usefulness waiting be nearer to the wellspring of the activity where circulated frameworks innovation communicates with the physical world. Edge computing does not require contact with any incorporated cloud, despite the fact that it might connect with one. As opposed to distributed computing, edge registering alludes to decentralized information preparing at the edge of the system.

It is the empowering advancements that help in enabling for calculations to happen at the edge of the machine; for the benefit of cloud administrations, it is set to downstream information and for the benefit of IOT, it is set to upstream information. Therefore, edge can be characterized as a system asset as it passes between the source of information and cloud data centers. For instance, an advanced mobile phone is the edge between body things and cloud. From our perspective, fog and edge computing are exchangeable, still there are some differences as to how to both of them work. The focus of edge computing is mainly on the things side, while the focus is more on the infrastructure side in fog computing centers. Researchers have predicted based on the data that edge computing will likely have a large impact on human beings as cloud computing has had over the past few years. In the edge computing worldview, the things not exclusively are information customers, yet in addition play as information makers. At the edge, the things cannot just demand administration and content from the cloud yet in addition play out the figuring assignments from the cloud. Edge can perform figuring offloading, storing data, reserving and preparing, just as circulate solicitation and conveyance administration from cloud to client. With those employments in the system, the edge itself should be all around intended to meet the prerequisite effectively in administration, for example, unwavering quality, security, and security assurance.

1.2 SIGNIFICANCE

Putting all the figuring assignments on the cloud has been demonstrated to be an effective path for information preparing since the processing power on the cloud bulldozes the capacity of the things at the edge. Be that as it may, contrasted with the quick creating information handling speed, the data transmission of the system has ground to a halt. The transfer speed between the plane and either satellite or base station on the ground isn't huge enough for information transmission. Think about a self-ruling vehicle as another model. One Gigabyte information will be created by the vehicle consistently and it requires real time processing for the vehicle to settle on right choices. On the off chance that every one of the information should be sent to the cloud for handling, the reaction time would be excessively long. Also, that present system transmission capacity and unwavering quality would be tested for its ability of supporting an enormous number of vehicles in a single region. For this situation, the information should be prepared at the edge for shorter reaction time, progressively productive handling and smaller network pressure.

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Online Education – Opportunities with Salts of Challenges

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ABSTRACT

When COVID-19 Pandemic began, schools and colleges were among the first and foremost to shut down effective immediately. This is one place where parents don't want to take any risk or compromise in any fashion for their kids. No one knows for how long the pandemic will stay. Even though, schools and colleges have opened in various parts of the world, parents are still skeptical about sending their kids back to school while the virus is still around. While the pandemic has taught us how online education can be a way to go, it's not a deniable fact that this mode of education does come with its own set of advantages as well as challenges.

Keywords: COVID-19, Pandemic, Education, Online, Hybrid

I. INTRODUCTION

[1] Even before COVID-19, education technology was seeing rapid expansion and acceptance, with worldwide EdTech investments reaching US$18.66 billion in 2019 and the whole industry for online education expected to reach $350 billion by 2025. Since COVID-19, there has been a considerable increase in utilization of language applications, virtual tutoring, video conferencing tools, and online learning software.

The pandemic has boosted the need of online education has made the sector grow by leaps and bounds. Private schools and colleges quickly jumped onto this method in an effort to make sure that the flow of learning things doesn't get affected. The government institutions also hopped onto this online education train but were relatively slow. Lack of infrastructure not just at the end of educational institutions but at the receiving end have raised questions on practicality and relative adoption in developing countries especially like India. Not only just infrastructure and reachability but the change in way of learning and teaching things, factors like internet connectivity, online fee models, resources management, etc. are all part of the debate whether such a system of education can sustain in times when the pandemic is over.

II. PANDEMIC TURNED CATALYST

Let's take example of Demonetization while keeping aside the debate of whether it was good or not when it happened back in the day, one thing we can clearly see is how it completely changed the mode in which people usually spend money now. Every small vendor from tea stall to every large vendor like McDonalds, all accept UPI as a payment option. People don't carry a lot of cash these days because they're able to make payments way more easily and conveniently. The biggest accelerators of UPI revolution were not just one but many such as – Public Awareness, need of the hour, revolutionized mobile internet with cheaper and faster data speeds, smartphones adaptability, etc. UPI and other forms of payment through mobile phones came into existence way before

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Regression Testing Approaches, Tools, and Applications in Various Environments

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***Abstract*— In the entire process of developing software, the very crucial aspect is to perform a rigorous testing of the software. Regression testing is a kind of software testing that makes sure an application continues to work as intended even after upgrades, modifications, or improvements to the code. Regression testing evaluates revised software to ensure that the program's altered sections do not cause unforeseen obstacles. When there is a continual transition in the program, this test is critical. This paper discusses regression testing significance, approaches, and the latest tools. As we all know, the most crucial phase of the life cycle of a software development process is the maintenance phase. The core team of developers is responsible for maintaining the product that they provide to their clients during this phase only. Regression tests are needed after the software has been revised. This paper includes a lot of accessible regression testing approaches as well as their categories. The concept of selecting test cases, minimizing test cases, and then prioritizing the same by executing regression testing on them is included in regression testing methodologies and classifications. The emergence of new technology has also technically allowed the education sector to expand. The paper also discusses the significance of regression testing and its use in different environments.**

Keywords— software testing, regression testing, approaches, environment, latest tools

I. INTRODUCTION

As there has been a major leap observed in the software industry particularly the technological advancements in the software development in comparison to past few years, the software sector has experienced growth. The creation of top-notch software solutions to meet end-user demands is the next challenge. Software development life cycle maintenance is the most essential phase. The development team is responsible for maintaining the product they deliver to their clients throughout this phase [16]. For doing so, the software maintenance task must be taken up very precisely. Up to two-thirds of the total expenditures associated with the software life cycle are often attributed to software maintenance activities [7]. This further includes the techniques of error rectification, capability additions, capability deletions, and optimization. In the community of software engineers, regression testing is a topic that has received extensive research. It is necessary to do regression testing once the software has been updated or modified. Various academicians have classified regression testing techniques, and thereafter it has to be analyzed to further explore the prioritization and selection of the test cases for performing the regression testing.

Over 70% of the testing budget is spent on regression testing, and testing accounts for more than 40% of the cost of maintaining software [3]. Regression testing is considered to be a crucial component of the maintenance of any software, even though it takes a lot of time. This type of testing verifies that newly upgraded software does not introduce unforeseen problems. Regression testing is defined to be the most widely used techniques for guaranteeing the highest of the qualitative software products during the relevant phases of software development cycle, which is further used by all software companies [6]. Both manual and automated testing are used in software industry for regression testing. Due to a lack of expertise, businesses frequently select automatic testing tools for regression that are insufficient for their objectives [11]. It is crucial for ensuring the quality of the software to be developed, but this will lead to higher cost and will increase the sizable amount of the expenditures associated with software manufacturing. Additionally, managing this regression testing process requires a significant amount of engineer work. An emphasis of this study is on the identification of the tools and techniques of regression testing. Minimization of the test case suite, selection of the Regression test and prioritization of Test case are just a few of the approaches that have been proposed and created to help in the identification of regression testing procedures and remarkably reducing the cost of regression testing.

The major aspect included in this paper is to address the overview and the detailed concept of the process of regression testing including the various methods of performing the tests and the available present-day technologies. Regression testing though is a very costly, but highly essential, component of software testing [10]. We have discussed the commonly accepted notion of regression testing and how various academics have conceptualized and treated this concept. In this portion of the paper there are many different types and categories of regression testing methodologies. We have looked at how to choose and rank test cases for regression testing, as well as implement the relevant search algorithms for this purpose. In addition, we discussed how to evaluate different regression testing techniques, as well as the challenges that these approaches face, in order to better understand how they work. Then we will move toward how we could minimize cost and increase

Issues And Challenges In Implementation Of Jal Jeevan Mission And Best Practices Adopted For Water Resource Sustainability In Hilly Region Of Uttarakhand

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Abstract: By interconnecting household-level taps by 2024, the Jal Jeevan Mission (JJM) of the Indian government aims to deliver adequate and secure water supply to all rural Indian families. The objective also includes the necessary sustainable source management techniques, such as water conservation, rainwater gathering, and material replenishment and reuse. The Ministry of Drinking Water and Sanitation (MDWS) has designated Key Resource Centers across the country with the mandate to conduct capacity-building training sessions for different stakeholders. The Jal Jeevan mission was launched in 2017 as a component of the National Rural Drinking Water Program (NRDWP), with the goal of providing "safe and sufficient freshwater within establishments to the maximum extent possible" by 2030. Our Prime Minister launched "Har Ghar Jal" on August 15, 2019, whose target is to ensure consistent and long-term tap supplies of water in sufficient supply and recommended quality. The paradigm of this mission has transitioned from habitation to the domestic level, with quality service increasing from 40 to 55 LPCD by 2024.

Keywords- Har Ghar Jal, Jal Jeevan Mission, Sensor Based IoT, Sustainable Development, Water Management.

1.Introduction

Due to shifting of climatic and anthropogenic factors, the Himalayan region is facing water uncertainty and scarcity. According to people residing in the region and data available, spring discharges are declining on a regular basis, resulting in water scarcity in the area [1]. Many villages are experiencing severe water shortages, particularly during the summer months. The drying up of water sources has harmed rural water security, requiring people, particularly women, to travel longer distances for water collection. Traditional water sources such as Naula, Dhara, and others are used by rural communities in Uttarakhand to meet their daily water needs [2]. These water resources are primarily owned, used, and maintained by the local communities and are categorized as common pool resources [3]. The Government of India has initiated Jal Jeevan Mission scheme to provide Functional Household Tap Connections (FHTC) to every household with adequate water supply. However, various technical, management and implementation issues are observed throughout the country. These issues are much prominent in the Uttarakhand state and being addressed by the implementing agencies. However, their coverage throughout the state is very limited and thus needs proper documentation of good practices, so that these can be replicated in the areas having similar problems.

A study was conducted to understand the current scenario of JJM in Uttarakhand with the objectives, firstly, to identify the problems and obstacles that the steep terrain of Uttarakhand faces in the water and sanitation sector. Second, best practices for recharging water sources in hilly states will be documented. Third, to determine the cause of water source depreciation in India's hilly regions, and finally, to comprehend the suitability of spring hydrogeology and groundwater research and management issues. The present study is an attempt to provide understanding on the issues and challenges in water and sanitation sector, so that the future policies be drafted keeping these issues in mind for better outcomes.

1.1.Methodology-

A comprehensive review of available literature on water, water management, and conservation issues was done. In addition, a review of governmental schemes related to water supply, monitoring of the JJM dashboard, and documentation of some best practices were made.

2.Result

Issues and Challenges of Safe Drinking Water Supply in Himalayan Region

The Himalayan Region has been experiencing an increasingly severe water crisis since the turn of the century. Fewer than half of the population has access to adequate quantities of safe drinking water. Rural communities may only have access to 25 to 30 liters of potable water per person per day (LPCD) during the dry season [4]. Additionally, Uttarakhand is a hilly state. In 2019, it was anticipated that over 50 percent of the total of Uttarakhand's springs would have disappeared or turned seasonal. Due to movement from rural to urban areas, hills to plains, and shifts in land use, there is a lack of capacity planning and global climate change. are broadly acknowledged as the causes of declining spring flows. Uttarakhand has approximately 71% of its total surface area covered by forest. Furthermore, 69% of the forest cover falls under "reserve forest," which is a nature reserve under the control of the forest, and any work inside that area requires multiple approvals from the department [5]. Water shortage is a challenge that affects the entire region, especially during prolonged dry spells, although it is more severe in the mid- and upper-hilly areas due to the low number of springs that have finite streamflow zones and lower recharge zones.

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A Conjoint Analysis Approach To E-Service Attributes Of Online Shopping Websites To Generate An Optimised Unique Selling Proposition

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Abstract

This research seeks to determine how certain service attributes of e-commerce might be integrated by partitioning those attributes into distinct components. Prior studies solely focused on the cognitive elements of utilizing the service features of an online store. This is the first study of its sort to quantify the utility of each service attribute. A focus group method is employed to examine the crucial e-service qualities and classify them into desired levels. This is a prototype combination of e-service attributes using orthogonal design with SPSS software, this gives a heuristic combination of e-service qualities. Conjoint Analysis, a practical method for identifying the underlying set of features that the user values most, is used for further analysis. Businesses that are able to combine the variety of available e-service features will enhance website usability and, as a result, offer a more satisfying client experience, giving them a competitive advantage. The latest research provides valuable input in designing and altering existing websites. The choice-based conjoint analysis is used to create the optimum value proposition for the service characteristics of online stores. Our findings demonstrate that the respondents considered Payment

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IMPACT OF WORK FROM HOME ON JOB SATISFACTION

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ABSTRACT

The purpose of the research is to examine how compassionate fatigue acts as a mediator between working from home and job satisfaction. Data was gathered from 201 employees employed in three service industries: finance, IT, and education. The study's findings reveal that there is a noteworthy indirect influence of working from home on job satisfaction, while the direct impact is found to be insignificant. Working from home significantly affects compassionate fatigue, which in turn has a modest yet significant impact on job satisfaction.

Keywords: Indirect effect, SEM, Reflective, Mediation

1. Introduction

The covid-19 period for the people to stay at home, or most workers were working from their homes, and there were mixed feelings of workers about this new change in life; few were positive, and few were negative (Matli, 2020). During the COVID-19 period, there was a notable adverse correlation observed between working from home and employee productivity. Particularly, female employees were disproportionately affected by an imbalance between work and personal life, leading to a negative impact on their productivity levels. (Farooq & Sultana, 2021). The COVID-19 period witnessed a considerable decline in work-life balance compared to the pre-pandemic era. This decline can be attributed to the difficulties faced in navigating between different areas within the home and the absence of a proper work setup(Tagliaro&Migliore, 2021). Studies have proved that companies' support was required during work from home due to the psychological impact of work from home on work outcomes (Tagliaro&Migliore, 2021). Work exhaustion was negatively impacting the job, and employees could not fulfil the demand of work. Technological and management support positively impacted job satisfaction (Jamal et al., 2021). Job

An Analysis of Work-Life Balance in the Healthcare Industry

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Abstract

Both business practices and scholarly study have significant effects on work-life balance. According to the research, work-life balance is an important issue which affects well-being because the family and profession both are need to keep on priority for most of the persons. Any conflict amongst the responsibilities of work and family life has a detrimental effect on the welfare of the employee. The key aim of this paper is to examine the effects on work-life balance as it can be understood that the impact of family work conflict and work-family conflict on the health of persons employed in the healthcare sector. Levels of family's happiness and well-being has measured by using psychological distress and work satisfaction.

The data analysis revealed that healthcare employees are more stressed than other professions, especially nurses and paramedical staff. Because of late shifts and overtime, they are less motivated. The salary satisfaction level among healthcare professionals is satisfactory. They are not happy with the rewards and festival bonus that were given to them. However, night shift and overtime are two factors that make life difficult for healthcare employees. It is not very easy to make a healthy work-life balance because working shifts significantly interfere with taking care of your family and your job. If taken proper measures by the healthcare organisations these problems can get resolved.

Keywords: work-life balance, healthcare professionals, satisfaction, motivation.

Introduction

It can be difficult to maintain a healthy work-life Integration in the healthcare industry because employees commonly put their personal needs aside for their careers. Work-life balance involves striking the right balance between personal and professional objectives, which are inextricably entwined by every means. Night hours, extended schedules, fewer breaks, and intense work pressure are just a few of the problems that come in the healthcare industry profession. To advance in an organization, one must put in a lot of time in the office and handle challenging situations. It may be pretty engaging and thrilling some days

Parichay Maharaja Surajmal Institute Journal of Applied Research

Online Learning: Changing dynamics of the Education Environment

Dr. Neetu Anand, Yash Pandey, Shyam Sharma

Abstract-- With the advancements in technologies, progressions in the field of education are unavoidable. A significant amount of research is being carried out to identify benefits and drawbacks of online education vs traditional schooling.

Online learning is described as learning that takes place partially or wholly through the use of Internet. Online learning caters to a broad range of pupils, and it is becoming increasingly common in settings ranging from primary schools through higher education institutions and even beyond.

Insufficient digital infrastructure, legitimacy, and the terminology used in online education are all challenges that are undermining progress. With the growing popularity of the internet in India, the study covers what potential is available in the education industry in the coming years.

Keywords: Web Based teaching, face-to-face learning, higher education, hybrid classrooms, digital infrastructure

I. INTRODUCTION

The technology encroachment has brought about significant changes in almost all facet of society. Technology has an influence on the learning process as well. The vastness of the Internet and the ease with which technology can be accessed have resulted in an increase in trend for web-based academic learning. In the past several years, face-to-face education has evolved dramatically. Even though offline education is still the standard, online courses are becoming more popular in the fields of engineering and management. Across the country, online education is fast revolutionising schools and colleges. Instant, online, anytime accessible, self-driven, and on the go are some of the factors responsible for the tremendous expansion of online education.

Since the COVID-19 outbreak, e-learning has emerged as a viable option for modernizing the traditional educational system as a whole. Educators and scholars have had to adapt their habits, teaching/learning styles, evaluation methodologies, and other aspects of their lives. This reform has resulted in a number of benefits, but it has also resulted in conflicts and struggles among the benefactors.

Although e-learning became a hot topic in the late 1990s, it appears that the world has now focused almost totally on e-learning for a longer or shorter period of time, adapting and re-adapting to the new reality throughout the 2020 pandemic. As this field of research has become more open to new experiences and lucrative for international scholars, more studies have started to emerge.

II. LITERATURE SURVEY

Online learning can be defined as the delivery of lessons to a remote audience using web technologies as a channel.

The structure of web-based teaching and learning environments can be strikingly different. Digital, hybrid or blended format, and traditional courses with web-based add-ons are the three main types of online learning environments.

Digital courses are totally online, with no face-to-face engagement, with all components of the course taking place in an e - learning system. Hybrid courses combine web-based and classroom activities, with varied amounts of time allocated to the online and in-class lectures depending on the nature of the class and the instructor's discretion. The final programming model makes advantage of web technologies to deliver extra material for traditional classroom learning.

The most important reason for the impressive development in virtual education is the substantial availability of open online courses. MOOCs are open online courses that allow for limitless participation and unrestricted access via the internet. Since its inception in 2008, MOOCs have garnered a lot of attention. To far, more than 800 universities throughout the world have introduced at least one MOOC.

Conferring to a survey by KPMG and Google, India's online education sector was worth $247 million at the end of 2016, and is expected to grow to $1.96 billion by 2021[1]. In addition, after the United States, India's online education market is the second largest. According to the report's estimates, the paid market share for virtual learning services will increase by at least six times by 2021, to around 9.6 million consumers.

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A* Algorithm — Based Shortest Path Search For The Road Network

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ABSTRACT

Finding the shortest route on a road network is especially challenging in city traffic. In some unique situations, such as a medical emergency, espionage, detecting larceny, fire brigade, etc., finding the shortest way is crucial. The A algorithm and Dijkstra are two of the path-finding algorithms that are offered for sale. The A* algorithm offers the best and quickest shortest path. Heuristics are used to discover the route. Due to time and situational demands, we will search the path using the bi-directional search technique rather than the Dijkstra algorithm because of its resilience and flexibility. Currently, only one unidirectional search strategy is employed. By using this technique, the system spends less time looking for the best and fastest way.*

KEYWORDS

A* Algorithm, Dijkstra, Heuristic, Unidirectional, Bi-directional.

INTRODUCTION

One of the most important algorithms in artificial intelligence is the A* algorithm, which is commonly referred to in computer programs as "A-star" (but is not related to Starfinder). It was developed by Alfred V. Aho and Jeffrey D. Ullman at MIT around 1968, and it was initially designed for use as part of the ALPAC operating system that was used to program the MIT AI Lab's mainframe computer. It has also been implemented as part of a variety of other commercial programs and software packages since then. In addition to its utility as a problem-solving tool, the A* algorithm is also widely used in various other types of applications and systems that are designed to perform complex tasks, such as mobile robotics, navigation systems, and even robotic stock trading systems. And in addition to being useful in a wide variety of situations, the A* algorithm is also extremely simple to implement and use, which makes it an ideal choice for use in a wide range of applications.

It is even simple to adapt the A* algorithm for use in programming languages other than C++, which means that programmers can use it in a wide variety of environments to create a wide variety of different types of applications. In addition to being easy to understand and implement, the A* algorithm is also very fast and efficient, which makes it a good choice for use in situations where speed and efficiency are critical factors. And since it works by generating one or more possible paths through a maze or network and uses these paths as the input to an iterative search process in order to determine the most optimal solution or pathway to the goal, it is very effective for solving certain types of complex problems that involve multiple steps and complicated routes, making it a good choice for use in a variety of applications. This simplicity and effectiveness make it an excellent choice for use as a general-purpose problem-solving tool in many different scenarios, and it is frequently used in a wide range of real-world situations and applications in order to solve a variety of different kinds of problems.

It is also particularly useful in situations where it is necessary to find an optimal solution to a problem that involves a complex set of conditions and constraints that must be taken into account when determining the optimal solution, making it especially useful in a variety of different contexts and situations. However, it is important to understand that the effectiveness of the A* algorithm depends heavily on the quality of the input data used to create the solution path and the conditions under which it is used, so it is generally the most effective when used to solve relatively simple problems that have well-defined criteria that can be precisely defined in advance and that can be used to guide the search process to ensure that it converges to a correct solution as quickly as possible.

RELATED WORK

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DETECTING MALARIA USING DEEP LEARNING MODELS

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Abstract– Over the past few years, the corona has created havoc across the globe but still, malaria is holding theposition of disease with the highest mortality rate in few parts of the world. Malaria is caused by thebite of female mosquitoes - Anopheles. According to WHO, in 2020 the total number of malaria casesreportedwasmorethan240millionandabout627,000deathswerereported[5].Itcanbeexamin edontime, so now the major concern is to identify if a person is affected by malaria or not. There are manytraditionalwaystotestformalariabuteithertheyrequirehighlycompetentdoctorsormaygivere sults in high time. Scaling of this old technique is very difficult and not having doctors with properexpertise in rural areas is also a problem. So, in this paper, we have used a Convolutional NeuralNetwork (CNN) to classify the blood images as infected or not and get the results faster. Threedifferent deep learning models were compared to find out the most accurate model which willautomatetheprocessandcanbeusedbydoctorsinremoteareastogetfasterresults.

Keywords –ConvolutionalNeuralNetwork;DeepLearning;MalariaDetection;VGG-16,RESNET-50;Inceptionv3;layers;transferlearning

I. INTRODUCTION

Malaria is a serious disease caused by Plasmodium bacteria. It is a mosquito-borne disease caused bythebiteofafemaleAnophelesthattransmitsatypeofinfectivesingle-celledorganismsintothehumanbody,whichreproducesinthebloodcells.ResearchesshowthatMala riaaffectsmorethan500million people every year, Nearly 0.5% of which results in death; here children are the main victim ofdeathduetomalaria.

The symptoms of the person infected with malaria parasites can vary from mild to serious illnesses oreven death. The most common symptoms are Cough, Cold, Fever, Nausea, Headache, Joint Pain,Muscle Pain, Fatigue, Vomiting, Diarrhoea, etc. Malaria is a common

Face Recognition for Examinee Verification

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In the modern world, facial recognition is playing a vital role in the field of biometric technologies. The reason being simple, it's a very efficient and developed method compared to the other methods. Its being so precise, errorless and effective gives it an edge over other technologies. There are lot of fields where this fast growing technology is yet to show its effectiveness, one of which is examinations, the identification of the students during examinations. Different kinds of biometric technologies are used in the examination sector in order to identify the students appearing for the exams. Biometric technologies uses physical features to identify the person appearing in the exam but several of these methods make room for errors and cheating which can be improved by execution of facial technology.In the present age physical verification of examinee will be generally through checking of admit card which is a very time consuming and tedious process .The aim of this research is to replace the traditional methods of examinee authentication with new technology of facial verification for faster, efficient and accurate identification of candidate. In this research paper, the approach of Eigenface and fisherface has been used. These techniques are recent and have apparently promising performances, and are representing new trends in this field.

Keywords: Face Detection, Examinee identification, Face Authentication, Eigen faces, Fisher Faces.

1. INTRODUCTION

In past years several methods have been proposed for detecting examinee identity. Different kinds of biometric technologies are also used in the examination sector in order to identify the students appearing in the exams. Biometric technologies use physical features to identify the person appearing in the exam. Basic biometric technologies involve an iris scanner, Fingerprint Scanner, Voice recognition etc.

1.1 Biometric Technology

Biometric technologies are a method of body-based identification that authenticates a person's identity on the basis of physical features, including facial appearance, iris patterns, and speech.

1.2 Fingerprint Scanner

A fingerprint scanner is a technology that recognizes and authenticates an individual's fingerprints in order to grant access to a computer system or physical facility (Kelly, 1971). It is a form of biometric security technology that uses a combination of hardware and software techniques to identify an individual's fingerprint scans.
Advantages of Fingerprint Scanner

—Fingerprint tackles the inherent factor or "who you are" aspect of user authentication since it provides tangible proof to verify the identity of the person concerned (Zhao, R. Chellappa, and Rosenfeld, 2003) (Zhou, Hu, and Shabaz, 2022).

—Physical traits are much harder to replicate than information factors, such as certificates, and are harder to fake than possession factors, such as an ID card or a physical access token.

Image Captioning Generator Text-to-Speech

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With the rapid growth of artificial intelligence in recent years, image caption has increasingly grabbed the attention of many artificial intelligence researchers and has become a fascinating and challenging task. In this research work a model is created for blind people that can guide and support them while traveling on the highways just with the help of a smartphone application. This can be accomplished by first converting the scene in front of the user into text and then converting text into voice output. The method for the generation of image legends based on deep neural networks. With an image as an entry, the method can display an English sentence describing the contents of the image. The user first provides a voice command, then a quick snapshot is captured by the camera or webcam. This image is then fed as input to the image caption generator template that generates a caption for the image. Next, this caption text is converted to speech, which gives rise to a voice message on the description of the image. The objective of the research work is to develop a model that can help the blind people while travelling with the help of smartphone application.

Keywords: NLP, Image Captioning, Computer Vision, ML.

1. INTRODUCTION

When there is a descriptive sentence for a given image, creating captions is a fascinating artificial problem. It consists of two computer techniques for understanding the scene in the image and then applying a language model by applying natural language processing for correctly translating image comprehension into words. Image captioning has a wide range of uses, including editing suggestions, the use of visual assistants, image insertion, the visually impaired, social media, and a variety of other language processing applications. In-depth learning models are capable of producing positive outcomes when it comes to captioning issues. Rather than using complex data or a set of custom-designed models one after the other, a single end-to-end model can be specified to make predictions of captions provided an image. The image captured by the camera is given as an input to the model which predicts the captions is shown in fig 1. The novelty of the study is that it uses the already existing models for image captioning and text to speech conversion to create a new framework for a smartphone. The Caption Generation Process based upon GLOVE model is shown in fig 2.

The amount of memory that is available on the GPU that is used for training purpose, and also the amount of time allowed for training, decide the neural network's limits. Using faster GPUs and larger databases, the results based on the findings can enhanced.

There are several APIs available for converting text into speech in python. These APIs are the Python Text to Speech API popularly known as the pyttsx3 API. pyttsx3 is a simple-to-use tool which converts text into audio.

Motivation for research work are as follows:

—The application of image caption is extensive and significant, for example, the realization of human-computer interaction. This motivates us to develop the model to help the blind people.

—The development of the image description system may help the visually impaired people "see" the world in the future. Recently, it has drawn increasing attention and become one of the most important topics in computer vision.

Special Issue

Intelligent Data Management Techniques in Multi-Homing Big Data Networks 2021

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Multihoming Big Data Network Using Blockchain-Based Query Optimization Scheme

Mukta Jagdish [1], Neetu Anand [2], Kumar Gaurav [2], Samad Baseer [3], Abdullah Alqahtani [4] and **V. Saravanan** [5]

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Abstract

In this paper, we have proposed the intimate environment of multiblockchain optimization algorithm using big data inquiry to mend the effectiveness of association query handling among numerous multihoming blockchains by implementing the big data system. This technique adds semantic evidences to the old-styled multiblockchain prototype and constructs a semantic model of multiblockchain that delivers a foundation for linking queries among the various blockchain multihoming system in big data. On the base of this model, distributed databases have index arrangement, and a linking index arrangement is proposed among the numerous blockchains, with several attributes linked to these blockchains employed to improve the efficacy of linking calculation. Besides, the communication cost is d for data communication. On this foundation, a multichain linking enquiry algorithm based on optimization is anticipated to progress the productivity of multiblockchain connection queries. To conclude, two genuine big data community sets of data are used to conduct experiments on. The associating index arrangement

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4. A WhatsApp Bot Designed for Small Health Clinics

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Abstract - In our modern era, seeking medical care has become an integral aspect of our lives. It is widely recommended by physicians to schedule regular monthly appointments with a healthcare professional to maintain optimal health. In line with this, many individuals choose to visit a doctor who has been providing care and oversight for them over the past few years, establishing a trusted relationship. These doctors can be found in hospitals or even in small neighborhood clinics, providing personalized and accessible healthcare services. The focus of this project is centered around a specific small neighborhood health clinic, catering to the local community's medical needs. To enhance convenience and accessibility, a specialized bot has been developed. This bot offers a range of functionalities, including booking appointments with the doctor of choice, scheduling COVID vaccine slots, accessing and downloading previous prescriptions for easy reference, and facilitating the seamless

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4. A WhatsApp Bot Designed for Small Health Clinics

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Abstract - In our modern era, seeking medical care has become an integral aspect of our lives. It is widely recommended by physicians to schedule regular monthly appointments with a healthcare professional to maintain optimal health. In line with this, many individuals choose to visit a doctor who has been providing care and oversight for them over the past few years, establishing a trusted relationship. These doctors can be found in hospitals or even in small neighborhood clinics, providing personalized and accessible healthcare services. The focus of this project is centered around a specific small neighborhood health clinic, catering to the local community's medical needs. To enhance convenience and accessibility, a specialized bot has been developed. This bot offers a range of functionalities, including booking appointments with the doctor of choice, scheduling COVID vaccine slots, accessing and downloading previous prescriptions for easy reference, and facilitating the seamless

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WoM-based deep BiLSTM: smart disease prediction model using WoM-based deep BiLSTM classifier

Priyanka Dhaka[1] · Bharti Nagpal[2]

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Abstract

Diagnosis of cardiovascular disease has been significant due to the increased number of people affected by cardiovascular diseases. Though various methods were developed in classifying the diseases and ensuring the privacy for secure data transfer, most of the existing methods suffer from accurate decision making. Hence, this research tends to introduce a well-suited disease prediction model with the help of an improved deep Bidirectional Long Short Term Memory (Deep BiLSTM). The hyper-parameters related to the optimized deep BiLSTM classifier are tuned by the proposed optimization named Whale-on-Marine optimization (WoM) algorithm. The research-based on the developed deep BiLSTM classifier for heart disease utilizes the Elliptic Curve Cryptography (ECC) dependent Diffi-Huffman algorithm to ensure secure data transmission in the network. The effective decision making and secure data transfer are performed using the WoM-based deep BiLSTM classifier, where the WoM optimization reflects the characteristics of marine and Whale to determine the space between the prey and the predators, which improves the exploitation integration and exploitation tendencies. The performance metrics reveal that the proposed optimization based on deep BiLSTM effectively predicts heart diseases. The optimized deep BiLSTM classifier achieves a sensitivity of 97.93%, specificity of 97.52%, F-Measure of 97.658% and accuracy of 97.53% for the training percentage in Statlog, Cleveland, and Hungary database.

Keywords Deep BiLSTM · WoM optimization · Heart disease prediction · ECC based Diffi-Huffman algorithm

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An Innovative Approach to Cardiovascular Disease Prediction: A Hybrid Deep Learning Model

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ABSTRACT

The increasing prevalence of cardiovascular disorders has created an imperative need for accurate diagnoses. Despite the emergence of numerous techniques for disease classification and secure data transmission, a prevailing shortcoming is the lack of precision in decision-making. This study aimed to address this critical issue by introducing an innovative disease prediction model that uses a hybrid classifier. The proposed hybrid classifier combined deep Bidirectional Long-Short-Term Memory (deep Bi LSTM) and deep Convolutional Neural Network (deep CNN).To further improve its performance, the proposed approach employed hybridized swarm optimization to fine-tune fusion parameters and optimize the learning model for enhanced accuracy. This study focused on heart disease as its central concern, strengthening data security through the implementation of Diffi-Huffman based on Elliptic Curve Cryptography (ECC) during data transmission. The resulting automatic disease prediction model adopted the hybrid deep classifier, which was born from the amalgamation of two components: the interactive hunt-deep CNN classifier and the WoM-deep Bi LSTM. The proposed hybrid learning model achieved impressive accuracy, F-measure, sensitivity, and specificity of 97.716%, 97.848%, 98.021%, and 97.807%, respectively, marking a significant advance in the realm of cardiovascular disease prediction.

Keywords-cardiovascular disease prediction; elliptic curve cryptography; interactive hunt-deep CNN; WoM-deep bi LSTM; Diffi-Huffman

I. INTRODUCTION

Data gathering and storage have been digitalized on a large scale because of recent advances in information science, using tools such as mobile devices, laptops, satellite reports, and so on for data collection. These data include private personal information such as medical records and others [1]. When patients seek treatment in different facilities, reliable and prompt medical precaution facilities are provided at any time through the exchange of electronic health records without redundancy [2]. The Internet of Things (IoT) plays an important role in helping physicians [3-4]. The IoT may virtually connect people and objects in the age of the fast Internet to exchange information. IoT devices are integrated into several web applications for data collection. It is crucial for real-time health observation systems that the network remains mobile and offers efficient client-server communication. As a result, it is essential to keep track of individual sensor information in the web-based control system [5-6]. In addition, IoT and cloud computing technology are interdependent and have become beneficial areas for remotely managing the patient's condition to provide ongoing facilities by providing helpful information to patients and clinicians [7]. Many services use cloud solutions and machine learning algorithms to keep and process patient data [8-11]. In [2], a multi-objective successive approximation (EMSA) technique was introduced to maintain an adequate measure of privacy in healthcare clouds based on Euclidean L3P. In many cases, Wireless Personal

Adaptive Ensembled Fusion Based Deep CNN-Bilstm Model For Heart Disease Prediction In IoT

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Abstract

Internet-of-Things (IoT)-based heart disease prediction is a complex task and processing the real collected data directly for remote patient monitoring suffers from the limitations due to the irrelevant data features, affecting the prediction accuracy and raising the security concerns. Hence, the efficient Adaptive ensembled deep Convolution neural network –Bidirectional Long Short Term Memory (Adaptive ensembled deep CNN-BiLSTM) classifier model is proposed via the fusion of interactive hunt-based CNN and Whale on Marine optimization (WoM)-based deep BiLSTM. The Adaptive optimization developed from the standard hybrid characteristics such as random searching, seeking, attack prohibition, following, and waiting characteristics optimized the fusion parameters of the developed classifier for attaining high detection accuracy. Additionally, the modified Elliptic Curve Cryptography (ECC) based Diffi-Huffman encryption algorithm provides the authentication and security of sensitive patient data in heart disease prediction. The developed model is evaluated with other competent methods in terms of accuracy, sensitivity, specificity as well as F-measure, which are reported as 97.573%, 98.012%, 97.592%, and 97.705% respectively.

Keywords: IoT; Smart healthcare monitoring; Elliptic Curve Cryptography; Convolution neural network; Diffi-Huffman encryption algorithm; Synthetic Minority Over-sampling Technique (SMOTE); Deep learning (DL).

1. Introduction

Cardiovascular disease refers to a variety of conditions, including rheumatic, coronary, and congenital heart disease. As a result, the heart's activity has been studied when exercising, sleeping, and working [1] [2]. Chest pain, uneasiness, shortness of breath, perspiration, dizziness, and fatigue are all indications of heart disease [3]. Heart disease is the major cause of mortality across different age groups in the modern world, which insists on the need to better predict heart diseases using various innovative approaches [4]. Heart disease diagnosis is mostly based on existing knowledge and data from associated pathological occurrences [5].

Healthcare sectors rapidly adopted the IoT techniques [11] [12] as incorporating the IoT characteristics into medical devices enhances both the quality and efficacy of services. Smart wearable devices collect information about the patient's health state including their heart rate, blood pressure, glucose level, and so on. The collected data can be delivered to cell phones and continuously tracked using sensors on wearable technology [13][14]. The approaches integrate IoT into complicated deep learning(DL)models with the ultimate goal of attaining higher accuracy outcomes since it has an incredibly advantageous state of decreasing response time[15-18].DL models, like CNN, LSTM, ensemble classifiers, and so on are employed for heart disease prediction. DL algorithms handle enormous amounts of data and are crucial to the decision-making process. The more complex the network, the greater the prediction time, and the higher the accuracy acquired from the network[29]. The significant issue for IoT applications in the healthcare and other domains is the requirement of real-time data for the operation [26].

The research focuses on developing an effective heart disease prediction framework utilizing the Adaptive ensembled deep CNN-BilSTM model. The Diffi-Huffman encryption scheme based on modified ECC

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Study on IOT based Smart Disease Detection Model on Machine Learning Techniques for Healthcare Applications

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Abstract- ***The wearable medical devices are integrated with the internet of things (IoT) for smart healthcare applications to improve the quality of service. The information regarding the patient's details updated through the IoT devices helps to provide the medication based on the present condition and hence the severity can be reduced instantly. Machine learning (ML) is utilized for making better decisions through clustering and classification methods that efficiently deal with the quality of information. Hence, this research introduces an analysis of smart disease prediction techniques for healthcare applications. The analysis of diseases such as heart disease, Alzheimer's disease, and diabetic retinopathy disease based on machine learning is employed by reviewing the conventional detection methods along with the achievements and research gaps. In addition, the analysis based on the performance metrics, dataset, and tools utilized is also devised for the development of the novel smart disease detection technique with more efficient accuracy of detection.***

Keywords: detection, machine learning, Alzheimer's disease, diabetic retinopathy, heart disease

I. INTRODUCTION

The development of information technology and embedded systems leads to the development of the Internet of Things (IoT) that provides the interaction among the devices and humans through the virtual environment and physical scenario. In many of the IoT-based applications, the information is gathered through smart cities, healthcare, homes, transportation, and other smart environments using digital devices. In healthcare and medical care applications, the development of sensors and devices based on IoT is an emerging research area. Here, the person-centric environment transformation from the hospital-centric system is essential due to the enhancement of the expensive in the healthcare sector. Thus, using the person-centric healthcare scenario, the healthcare history can be accessed in real-time distantly from anywhere and anytime. The information concerning the patient supports the healthcare team or doctors to diagnose easily based on the parameters included. The parameters utilized for the healthcare monitoring of heart disease are ECG, glucose level, weight, blood pressure, temperature, and heart rate. The main reason behind the occurrence of heart disease is obesity, diabetes, high blood pressure, smoking, and several other factors that affect a healthy life and makes life risk. The neurodegenerative disorder and the chronic disease that affects the function of the brain is termed Alzheimer's disease (AD), which is a chronic disease. The vision loss of the diabetic patient is termed Diabetic retinopathy (DR) [1], which is painful and expensive. Thus, for the disease diagnosis, there is a requirement to an automatic device with minimal cost and a non-invasive manner.

The disease detection based on the machine learning technique is cost-efficient and easy to implement busing the decision support device. The decision supportive method helps the doctors to make a better decision regarding the health condition of the patients by diagnosing the disease in the early stage. Here, the generalization is the detecting of unobserved things from the past training experience and the representation is nothing but the deriving and evaluating the functions using the various occurrences of data.

The major contribution of the study is to analyze the traditional disease detection and prediction techniques based on machine learning approaches. Here, for the smart healthcare applications, the diseases such as diabetic retinopathy (DR) detection, heart disease prediction, and detection of Alzheimer's disease (AD) are categorized and analyzed based on the ML. Then, the analysis based on the tools utilized for implementation of the developed method, dataset utilized for the evaluation, and the performance metrics are analyzed and depicted. Finally, the research gaps are detailed for the researchers to develop a novel machine learning-based disease detection and prediction technique for the proper medication in the early stage to reduce the severity of the disease.

The remaining sections of the study are: Section 2 details the analysis of conventional machine learning techniques for disease detection and prediction. Section 3 elaborates the analysis of the existing methods in terms of dataset utilized, performance metrics, and tools utilized. The research gaps are explained in section 4 and section 5 concludes the work.

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सत्यमेव जयते

क्रम सं/SL No :011166392

पेटेंट कार्यालय,भारत सरकार
पेटेंट प्रमाण पत्र | The Patent Office, Government Of India
Patent Certificate

(पेटेंट नियमावली का नियम 74) | (Rule 74 of The Patents Rules)

पेटेंट सं. / Patent No.	:	444157
आवेदन सं. / Application No.	:	202311007354
फाइल करने की तारीख / Date of Filing	:	06/02/2023
पेटेंटी / Patentee	:	1.SIMERNEET SINGH 2.GURMEET KAUR
आविष्कारकों का नाम /Name of Inventor(s)	:	1.Dr. Nishtha Jatana 2.Dr. Kavita Sheoran 3.Dr. Geetika Dhand 4.Dr. Shaily Malik 5.Dr. Divya 6.Ms. Vaani Garg 7.Dr. Anju Dhillon 8.Ms. Priyanka Dhaka

प्रमाणित किया जाता है कि पेटेंटी को, उपरोक्त आवेदन में यथाप्रकटित *"COMPACT ELECTRONIC SINGLE BRAILLE CELL DISPLAY DEVICE"* नामक आविष्कार के लिए, पेटेंट अधिनियम, 1970 के उपबंधों के अनुसार आज तारीख फरवरी 2023 के छठे दिन से बीस वर्ष की अवधि के लिए पेटेंट अनुदत्त किया गया है।

It is hereby certified that a patent has been granted to the patentee for an invention entitled *"COMPACT ELECTRONIC SINGLE BRAILLE CELL DISPLAY DEVICE"* as disclosed in the above mentioned application for the term of 20 years from the 6th day of February 2023 in accordance with the provisions of the Patents Act,1970.

अनुदान की तारीख : 10/08/2023
Date of Grant :

पेटेंट नियंत्रक
Controller of Patents

टिप्पणी - इस पेटेंट के नवीकरण के लिए फीस, यदि इसे बनाए रखा जाना है, फरवरी 2025 के छठे दिन को और उसके पश्चात प्रत्येक वर्ष मे उसी दिन देय होगी।

Note. - The fees for renewal of this patent, if it is to be maintained, will fall / has fallen due on 6th day of February 2025 and on the same day in every year thereafter.

*चूंकि पेटेंटी व आविष्कारकों की संख्या अधिक है, पेटेंटी व आविष्कारकों के नाम पृष्ठ संख्या 2 पर जारी हैं।

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पेटेंट प्रमाणपत्र के लिए अनुलग्नक/Annexure to Patent Certificate

पेटेंट सं. / Patent No.	:	444157
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Parichay Maharaja Surajmal Institute Journal of Applied Research

Rising NPAS in India: Case Study on ABG Shipyard

Dr. Shailza Dutt[1], Ms. Kanishka Majumdar[2], Mr. Arjun Katyal[3]

ABSTRACT:

By evaluating the existence of terrible loans, such as if an asset is unable to generate returns for a specific period of time, it is possible to quickly analyse the banking vertical (NPA). The majority of banks nowadays are dealing with problems like terrible loans and escalating, widespread frauds, which seriously humiliate public sector banks. Following the second Covid-19 wave across all sectors, the pandemic had an impact on borrowers' ability to repay loans. The purpose of this study is to identify the causes of non-performing assets in Indian public sector banks, as well as the monitoring procedures and credit evaluations in place to prevent their development. It also looks at the extent to which Covid-19 has an impact on NPA.

Keywords: Banking, Public Sector Banks, Non-Performing Asset

1. INTRODUCTION:

The banking industry is regarded as a notable pillar in the financial system, and its robust state will boost the economy of the country (Varuna & Nidhi 2019). By placing a high premium on routine monitoring and analysing bank performance because this might affect their effectiveness and revenue, the frequency of financial crises in the banking sector can be reduced to a certain degree (Hafsal et al. 2020). Since all financial institutions heavily rely on interest payments for income and financial instability in the nation can cause a sharp increase in non-performing loans and ultimately result in significant write-downs, an increase in NPAs will have a negative impact on bank profits and force drastic changes in monetary policy (Preeti & Bansal 2019).

A non-performing asset (NPA) refers to a classification for loans or advances that are in default. A loan is in arrears when principal or interest payments are late or missed. A loan is in default when the lender considers the loan agreement to be broken and the debtor is unable to meet his obligations.

Some key takeaways of NPAs in general:

- Assets become Non-performing assets (NPAs) and are recorded on a banks balance sheet only after a prolonged period of non-payment by the borrowers
- A significant number of NPA's over a period of time points to the poor financial fitness of a bank; hence placing a financial burden on the lenders.
- Depending upon the time overdue and the probability of repayment NPA's can be classified as substandard assets, doubtful debt or loss assets.
- Lenders can take possession of any collateral or sell off the loan at a significant discount to a collection agency in order to recover their losses from NPA's

2. OBJECTIVES OF THE STUDY :

- To identify the causes of NPAs in public sector banks.
- To analyse the fundamental analysis of ABG Shipyard
- To analyse the financial analysis of ABG Shipyard

3. RESEARCH METHODOLOGY:

In order to determine financial health of banks there are some ratios are used such as Current Ratio, Acid Test Ratio, Asset to Debt Ratio. This research covers the period of 2010 to 2020 & from Jan 2022 to Feb 2022 for case study purpose by collecting data and information from various secondary sources such as journals, articles, newspapers and available index.

4. ANALYSIS OF OBJECTIVE 1:

4.1 WORKING OF NON-PERFORMING ASSETS (NPAS) AND CAUSES :

- After a prolonged period of non-payment the NPAs are listed on the balance sheet of a bank or other financial institution and the lender will force the borrower to liquidate any assets that were pledged as part of the debt agreement. The lender might write off the asset as a bad debt and then sell it at a discount to a collection agency if no assets were pledged. When loan payments have not been made for 90 days, debt is typically labelled as nonperforming. While 90 days is typical, the actual amount of time may vary depending on the terms and circumstances of each loan, either being shorter or longer. At any time before or after the loan's maturity, it may be designated as a nonperforming asset.
- For example, assume a borrower with a ₹1cr loan with interest-only payments of ₹50,000 per month. In

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An analysis of Indo-China bilateral trade relations in the post-liberalisation era

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Abstract :
India and China are the fast moving economies of the world. Both the economies have grown drastically post-liberalisation and have also maintained trade relations with each other and other countries of the world. Open trade policies also get in a host of correlated opportunities for the nations that are caught up in global trade. Due to the huge size of these economies, exports, commodity composition, political association and high growth rates, the future of bilateral trade between both these economies is progressive.
This paper is an attempt to study and analyse the Indo-China bilateral trade relationship on the basis of macro-economic indicators i.e Imports, Exports, Balance of Trade and Commodity Composition.
Key Words: China, India, International Trade, Commodity Composition

Introduction :

THE BACK DROP

"I have a belief, that is when China and India are truly strong enough to fully bring out their own spirit and style, then that will truly usher in a new Asian century," – Wen Jibabo [Speech delivered at the annual press conference at the end of the session of the National People's Congress, the Chinese parliament. (Times of India, March 14, 2006)].

"….the gathering momentum of India-China relations is visible in the expansion of our bilateral economic ties. The process of engagement in the Asian region has truly taken off", - Manmohan Singh [Keynote address delivered at special leaders dialogue of ASEAN Business Advisory Council on December 12, 2005]

The history of "Hindi-Chini Bhai Bhai" has deeply engrained in the hearts and minds of the two discovers. As Chinese Premier Wen Jibabo said once that during more than 2000-year long history of exchange, 99.9% of time two Countries survived in peace and coalition. As the great Indian poet Tagore noted that India feels that China is a very adjacent relative. **India China trade affairs** are the most key ingredient of **two-sided relations** between India and China. The **India China trade associations** have been further extended from 2006, with the opening of the boundary trade among Tibet, an autonomous area of China, and India through Nathu La Pass, renewed following more than 40 years. In 2008, two-sided trade achieved US$ 51.8 billion with China replacing the United States as India's major "**Goods trading partner**." Sacred and edifying interactions survived amid them for the duration of the first few centuries. The Islamic invasion in India made two countries living as aliens until nineteenth century, when Europeans colonised both.
"India and China acted as the engines for global economic growth for 1,600 years of the past 2,000 years." Modi said, adding the greater negotiation on the economic front is inevitable. India's trade deficit with China was $51.11 billion in 2016-17. It remains India's largest import source and its third-largest export destination.

STATEMENT OF THE PROBLEM
The title of the present study is "An analysis of Indo-China bilateral trade relations in the post-liberalisation era". The emergence of both the Asian Giants "India" and "China" after liberalisation

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PSYCHOLOGICAL CONSEQUENCES OF SOCIAL MEDIA USAGE: A CASE OF UNIVERSITY STUDENTS' PERCEPTION

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Abstract

Discussion about student community and use of various social media platforms never end without the elaboration on how social media has impacting students' performance in exams as well as in their career preparation. Much less talk about discussion has been the fall out of social media usage on mental wellbeing. The key purpose of this research study was to spot light the perception of university students about psychological consequences of social media usage. This research is based on the structured interview with the 265 students who were enrolled in different university courses running through affiliated private colleges of the state of Uttar Pradesh. In this study four district of Uttar Pradesh were covered and these were Gautam buddha Nagar, Hapur, Meerut and Ghaziabad. The results of this research study outline the patter of social media usage, discuss the effect of social media on range of psychological variables including mental stress, loneliness, depression, sleep deprivation leading to insomnia, lethargic response, etc. This paper add value by highlighting outcomes that may be treated as indicators of major concerns about students and social media usage.

Keywords: *Social Media, Psychological effects, Mental Stress, Social Media Platform*

1. INTRODUCTION

Internet has brought people so close that possibility of staying 24 by 7 connected is a reality and all this happened because of social media and its acceptance among people of almost all age groups. Technology has offered a range of options to stay in network with people of like mind and similar interest. Communication has gone beyond email, SMS (Short Message Services) and online chatting. Availability of social media platforms has created exceptional ease for communication. People can share various kind of information in different audio-visual or even text formats. Social media has offered space to individuals to showcase their achievements. Lot of innovation in the social media space has happened. Just for an instance, Facebook become Metaverse. Social media companies have seen tremendous increase in the numbers of their active users. Research studies in the area of social network and social media have shown that most of the active number of users of social media belongs to age groups of students. Students use social media for various purposes including academic use and use for entertainment. No doubt social media platforms have

A Study on Factors that Contribute to the Success of B2B Ecommerce towards Manufacturing Industry

PDF (https://harbinengineeringjournal.com/index.php/journal/article/view/187/182)

Keywords:
B2B e-commerce, manufacturing industry, South India, precision components, adoption rates, success factors

Priya k. Dubey, Mridanish Jha, Sarita Chaudhary, Ritu Bishnoi

Abstract

B2B e-commerce plays a crucial role in the growth and development of small-scale and micro industries, particularly in the manufacturing sector. This study aims to investigate the factors that contribute to the success of B2B e-commerce in the precision components manufacturing industry in South India. To assess the knowledge levels of professionals in this industry and their actual utilization of e-commerce, an "E-Commerce Conversance Index" is established. The research provides valuable insights into B2B e-commerce activities in South India, highlighting the adoption rates and the sectors where e-commerce has been implemented.

The findings indicate a moderate level of B2B e-commerce adoption, with approximately 59.21% of the sample comprising adopters and 40.79% non-adopters. Moreover, the study reveals that B2B e-commerce has permeated diverse sectors within the manufacturing industry. As expected, multinational corporations are leading the way in B2B e-commerce adoption in India, resembling trends observed in developed nations. In such countries, the private sector typically takes the initiative in adopting new technologies. This research focuses specifically on the factors that contribute to the success of B2B e-commerce in the engineering industry located in South India.

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Section

Articles

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A Study on Evolution of Business Analytics & its Future Prospects

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Prabal Sharma, Student, Maharaja Surajmal Institute, New Delhi

Abstract

This research design investigates the elaboration and future of business analytics in India. Over the times, the subject of business analytics has seen substantial expansion and metamorphosis, owing to technological advancements, bettered data vacuity, and the growing applicability of data- driven decision- making in businesses. The purpose of this exploration is to give an overview of the literal elaboration of business analytics in India, to assess the current state of the assiduity, and to estimate its unborn trends and implicit influence on Indian enterprises. To gather perceptivity on the elaboration and unborn possibilities of business analytics in India, the exploration will employ a combination of qualitative and quantitative methodologies, similar as literature reviews, case studies, interviews with assiduity experts, and data analysis.

Keywords: Business Analytics, Descriptive Analytics, Predictive Analytics, Prescriptive analytics

I Introduction

Businesses won't be suitable to survive in a request where the competition uses a variety of logical tools and styles to promote optimal performance without good data use and committed analytics staff, commercial analytics has evolved into an important element of performance operation and commercial operations and indeed without the advanced tools and approaches accessible at the moment, the conception of business analytics and Smart business people used to do exploration like as client satisfaction checks and client feedback to identify what urged consumers to buy and use products on a regular base.

All of this needed mortal labor and took time. When complicated business analytics technologies were gradationally integrated into our culture, this was radically altered. latterly generations of business judges followed these and irrevocably altered the analysis world. Business analytics, well- known for its individual, prophetic, and conventional capabilities, has gained enormous traction in the recent time as governments and

Impact of business intelligence-enabled processes on banks' performance in India

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Abstract: The implementation of business intelligence (BI) in the banking industry is the key to the success of making the vital business processes effective and efficient. The study aims to explore how business intelligence, especially data warehousing and data-mining technologies, are impacting the performance of Indian banks and what are the various processes of the bank which are getting influenced by implementing and using BI. The study also analyses some of the banks' processes and provides an idea about the application of business intelligence, in the Indian banking sector. The three BI-enabled business processes empirically tested are fraud analysis, internal process efficiency and customer relationship management. The reliability and validity of the instrument was checked by creating the measurement model using structured equation modelling (SEM). The results obtained by applying factor analysis followed by multiple regression, show that all three processes using BI tools significantly impact banks' performance.

Keywords: business intelligence; data warehousing; data mining; business processes; bank performance; structured equation modelling; SEM; India.

Reference to this paper should be made as follows: Dhingra, S. and Chaudhry, K. (2022) 'Impact of business intelligence-enabled processes on banks' performance in India', *Int. J. Business Excellence*, Vol. 27, No. 3, pp.307–331.

Biographical notes: Sanjay Dhingra is an Associate Professor at the University School of Management Studies, Guru Gobind Singh Indraprastha University, India. He has to his credit 24 years of industry and teaching experience. He has published good number of research papers in journals, proceedings of national and international conferences. He is a Cisco Certified Instructor and has been awarded with the 'Best Teacher Award' in 2006 by the Guru Gobind Singh Indraprastha University. His research interests focus on information technology management.

Kanika Chaudhry is an Assistant Professor, with Jaganath Institute of Management Studies, in the Department of Management Studies from the past three years. She is having a prior six years of work experience in the industry as a business analyst as well as a faculty with Colleges of Delhi University. Currently, she is pursuing her PhD from the Guru Gobind Singh Indraprastha University. She has done MBA from the Indian Institute of Information Technology (IIIT), Allahabad. Her research interest includes business intelligence and information technology.

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Ensemble Machine Learning Paradigms in Software Defect Prediction

Tarunim Sharma[a] , Aman Jatain[b] , Shalini Bhaskar[c] and Kavita Pabreja[d]

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Abstract

Predicting faults in software aims to detect defects before the testing phase, allowing for better resource allocation and high-quality software development, which is a requisite for any organization. Machine learning techniques aid in the resolution of such issues and a variety of predictive models are being developed to categorize the software into defective modules and the one which is non-defective ones. Though applying these advanced machine learning techniques results in better utilization of time and other resources, there is still poor prediction as reported in many studies. This is because of several challenges that block defective software data, including redundancy, correlation, feature irrelevance, missing samples, and an imbalanced distribution between the faulty and non-faulty classes. Ensemble Machine learning has been adopted by practitioners and researchers globally to deal with such problems, and it is proven to demonstrate some improvement in defect prediction performance. In this review paper, all ensemble-based machine learning techniques developed for software defect prediction from 2018 to 2021 have been critically analyzed. The nucleus of this paper is to get a deep insight into why the various hybrid models still suffer from poor performance on the available datasets. A detailed review with a focus on multiple perspectives viz. faulty and non-defective datasets, performance evaluation criteria, and machine learning techniques have revealed certain gaps that can be addressed by developing more robust hyperparameter optimization algorithms, feature engineering, developing stacking and averaging models.

Keywords: Software Bug Prediction; Ensemble Learning; Classification, Software Metrics; Machine Learning Models; Software Quality Assurance; Class Imbalance.

1. Introduction

Software engineering is an area of engineering that creates diverse software products that are trustworthy, productive, and efficient in doing what they are supposed to do. It is concerned with all areas of software development, starting from software specification to maintenance after the software is handed over to the user. This implies that the quality of the software is entirely dependent on the process adopted to develop software and how successfully testing is carried out. Unfortunately, errors can occur at any point in the process followed for developing the software. The ability of software

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Chapter 2
Literature Review: A Comparative Study of Software Defect Prediction Techniques

Tarunim Sharma, Aman Jatain, Shalini Bhaskar, and Kavita Pabreja

1 Introduction

Over the previous few decades, developers have steadily shifted their attention to software-based systems, with software quality and dependability seen as the most important factor in user functionality. In recent years, there is an increased computerization that has resulted in the creation of a variety of different software; however, measures need to be taken to make sure that the produced software isn't defective. If the source code is complex, chances are there that software will show defects which further leads to failure in software. The scientifically based administration of the software testing phase necessitates the early and correct prediction of software problems. Defect prediction model development is ordinarily utilized in the field of industry and these kinds of models help in additional fault prediction, testing, calculating effort, reliability of software, software quality, assessment of hazards, etc., during the developmental stage. The future direction for research in the software engineering field is detecting faults in the software as it helps developers and testers for locating Software Defects with high accuracy and within time [1]. The most essential task in the software development life cycle model's testing phase is to establish a method for forecasting software failures so that testing and maintenance expenses can be lowered. It determines which modules are prone to errors and requires rigorous testing. For many years, regression techniques have been used to predict defective code snippets, and more recently, machines learning algorithms, both supervised

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An Ensemble Machine Learning Model for Automatic Prediction of Perceived Personal Well-Being of Indian University Students During COVID-19 Lockdown

Kavita Pabreja, Shubham Arya and Parichay Madnani

COVID-19 has impacted personal well-being globally in a disruptive manner. Frequent lockdowns have slowed down dramatically the economy of every nation. There is a fear of future insecurity cropping up in the minds of the people. The paper aims to restructure the popular Personal Well-being Index (PWI) according to the relevant indicators that impacted students' life in India during the second wave of COVID-19. The students at Delhi state university participated in the research. The researchers use various machine learning algorithms such as Lasso Regressor (LR), Support Vector Regressor (SVR), and Decision Tree Regressor (DTR) to predict the perceived PWI. The R-squared value for LR, SVR and DTR are 0.9103, 0.9159 and 0.5339. Mean squared errors are 0.0034, 0.0035 and 0.0105 respectively. The five most influential determinants of perceived PWI were extracted. An ensemble model of the three mentioned base learners was designed to remove the overfitting and underfitting problems. The algorithm has demonstrated impressive performance, with an R-squared value of 0.9839 and MSE of 0.0014. A GUI-based prediction model was implemented in Python that triggered the ensemble model at the back end to predict PWI based on five questions only, along with recommendations for the respondents.

KEYWORDS: Perceived Personal WellBeing, Support Vector Regressor, Decision Tree Regressor, Lasso Regressor, Ensemble Model, COVID19

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Parichay Maharaja Surajmal Institute Journal of Applied Research

Virtual Reality in Education

Dr. Kavita Pabreja[1], Gagan Bindoria[2], M. Aqib[3]

Abstract

Recent studies in the field of multimedia have re-showed the significance and effectiveness of visible functions in coaching and studying materials. It has been verified that multimedia can offer incredibly powerful coaching and studying surroundings in the best manner that the instructional fashion preferences (visible, aural, textual content, and kinaesthetic) of the newcomers are taken into consideration. In keeping with the findings, the visible components and interplay with the transmission are the most favored functions among the surveyed college students. All of these studies, and the surveyed college students have additionally indicated that the visible functions play a surely crucial function in information. In addition, studies also analyze the chances of creating even richer visible studying environments. The goal turned to discover the educational effectiveness of laptops and instructional multimedia systems. In reality, it turned out to conclude that the online game multimedia may want to decorate studying by imparting extra sensible photographs and visible functions.

Introduction

Although virtual reality (VR) is used for many different things, immersive online gaming is the main focus. The general idea of immersive online games evolved again in the 80s. In immersive laptop sports, contributors engage with a global generated through a laptop which might be a digital reproduction of the unique subject [1]. One of the maximum traits of immersive laptop sport is that the surroundings can be a complete-scale reproduction of the global and it pertains to human size. Hence, the contributors get the feeling as though they may be interacting with the crucial surroundings or subject [2]. Immersive laptop sports programs encompass both actual and summary worlds. The form and mathematical principles are samples of actual and summary conditions respectively. The applications of virtual reality encompass many different fields. Medical college students can deal with digital sufferers and instruct numerous surgical approaches interactively; an architect can take his/her customers on a digital excursion of the dream domestic design, different human beings at extraordinary places can end up part of a team, engage with not unusual place items and environments. Using laptop sports, we can input and engage with a global that does not exist or is hard to get admission due to charges or protection reasons. A digital surrounding or item is shaped through a laptop and human beings can engage with these surroundings for the desires of training or experimentation. Three-dimensional online game photographs are extra dynamic in comparison with bodily models. Online games are going to be best in conditions where:

1. Access to the surroundings is hard or impossible.
2. Using the unique items is hazardous or poses a threat to the user.
3. Obtaining and experimenting with the items is simply too steeply-priced

Applications of VR in Education

When it entails new improvements and eras, the field of training regularly lags a ways behind. However, one cannot neglect the renaissance of VR, as it is probably the subsequent leap forward in the instructional era. It would virtually offer a hazard to deliver pupils with genuine experiential studying surroundings. With VR, it is feasible to create gamification of training and allow college students to discover even as have fun [3]. Thus, they may imbibe the understanding and abilities higher this way via the immersive process.

1. **Application in Biology and Medical field**: Using VR one could discover the form likewise as different dwelling organisms. One can tour inside numerous arteries, and visualize the pumping of blood through the center, and DNA shapes amongst numerous different stories. Medical Students can behavior approaches in VR primarily based totally on operation theatre.
2. **Application in place of Health, Safety, and Environmental protection:** Through VR global, one could step into groups in crisis, in situations like floods, epidemics, earthquakes, and different human tragedies, and understand how resources can be given in such conditions. This outcome is an empathetic movement among contemporary college students in planet crisis.
3. **Creating collaborative VR** lets college students proportion their global with others and thereby co-create higher online game content material [4]. this may

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A Predictive Framework for Temperature Forecasting Using Machine Learning

Kshitij Sandal, Harsh, and Kavita Pabreja

Abstract Weather forecasting plays a significant role in the economy of a country as it affects various sectors viz. agriculture, tourism, trade, energy, transportation, and utility. Traditionally, the weather parameters like temperature, pressure and wind speed are forecasted by formulating mathematical equations based on observational data gathered by doppler radars, radiosondes, and weather satellites and deploying a Numerical Weather Prediction Model. The major limitation of these methods is that everyone does not have access to high-end equipment for forecasting. With the advent of digital technologies, one can scrape the data from the Internet and plug the data into machine learning models and obtain accurate predictions. In recent times, machine learning models are yielding results of high accuracy. This study provides a comprehensive overview of existing forecasting approaches, ranging from the most basic Moving Average to the more complicated ARIMA and Fbprophet models. The objective of this study is to forecast the temperature based on historical hourly forecasts being fed to numerous machine learning models. Various time series forecasting methods have been experimented with and it has been found that FbProphet performs the best with a root mean square error of 0.087 which is quite convincing and impressive.

Keywords Temperature forecasting · Machine learning · Predictive modeling · Time series · Meteorology

1 Introduction

Weather forecasting is the science of predicting the weather employing physics principles and a combination of statistical and empirical methodologies [1, 2]. An

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