AQAR 2023 - 2024

SANTHIGIRI COLLEGE
OF COMPUTER SCIENCES
Affiliated to M.G. University, Approved by AICTE and Accredited by NAAC

CRITERION 3

3.3.3: Number of books and chapters in edited volumes/books published and papers published in national/ international conference proceedings per teacher during year

SANTHIGIRI COLLEGE OF COMPUTER SCIENCES
THODUPUZHA
KERALA
685 583
VAZHITHALA

PRINCIPAL
SANTHIGIRI COLLEGE OF COMPUTER SCIENCES
VAZHITHALA P. O., THODUPUZHA
KERALA, PIN : 685 583

Volume 1
Issue 1
February 2023
SANTHIGIRI
COLLEGE OF COMPUTER SCIENCES
Proceedings of the International Conference
on
Advanced Computing and Communication Technology
ICACC-2023
10 February 2023
Organized by
Department of Computer Science
Santhigiri College, Vazhithala
Convener
Dr.Neetha Thomas
Principal
Rev.Fr. Paul Parakattel CMI
Publisher
IJSDR

IJSDR

ISSN:2455-2631

INTERNATIONAL JOURNAL OF SCIENCE & ENGINEERING DEVELOPMENT RESEARCH

(An International Open Access Journal)

email: editor@ijsdr.org

www.ijsdr.org

Included Subject Category

Engineering, Pharmacy, Management,Biological Science, Appliled Mathematics, Physics and Chemistry

SANTHIGIRI COLLEGE OF COMPUTER SCIENCES
THODUPUZHA
KERALA
685 583

PRINCIPAL
SANTHIGIRI COLLEGE OF COMPUTER SCIENCES
VAZHITHALA P. O., THODUPUZHA
KERALA, PIN : 685 583

Image Sharpening and Restoration Using Image Processing Techniques *Alex Jose, Abhinav Dileep, Alex Varghese*	1321 - 1325
Review On MusicLM *Mr. Akshay R, Mr. Albin P Devasia, Ms. Dalbina Dalan*	1326 - 1327
A Study on Graph Labelling and Its Applications *Likesy Saviyo, Josna John, Dona Jose*	1328 - 1330
Internet of Things in Road Safety *Gourisankar G , Gayathri Manjesh , Sebastian Cyriac*	1331 - 1333
AI In Agriculture:A Review *Ann Maria Tojo, Aneesha C M, Ann Treesa Joshy*	1334 - 1335
An Overview about Smart Contracts *Mr. Alen Geo Alex, Ms. Sigma Sathyan*	1336 - 1341
Big Data Analytic Tools, Applications and its Significance *Khalid Hasan Mahmoud Alsinjlawi*	1342 - 1345
Blockchain Enabled Secure Transaction using Hash Functions in Healthcare Data **Alan Sunil, Dr.Smitha Anu Thomas**	1346 - 1349
Centralized Software Management in Computer Networking *Jotten Ben John, Viswajith K V, Deepa M*	1350 - 1352
Cloud Gaming: Architecture and Performance	1353 - 1357

SAINTHIGIRI COLLEGE OF COMPUTER SCIENCES * VAZHITHALA * THODUPUZHA KERALA 685 583

PRINCIPAL
SAINTHIGIRI COLLEGE OF COMPUTER SCIENCES
VAZHITHALA P.O., THODUPUZHA
KERALA, PIN : 685 583

Prithwiraj Prakash, Nakul S Kumar, Dr. Neetha Thomas	
A Review on Open AI based ChatGPT *Ms Ayalin Roy, Ms.Aliyona Tomy, Ms Dalbina Dalan*	1358 - 1360
Voice Enabled Home Automation Using IOT *Vivek Chandran, Arjun T S, Sarath Siby*	1361 - 1363
Big Data and Social Media Analytics *Nandana Shaji, Naijil Basheer, Tesa Maria Shiju*	1364 - 1366
A Systematic Study on Cyber Attacks on Medical Data *Meera S, Akhil Sekharan*	1367 - 1369
A Study on Current Trends in Deep Learning for Autonomous Driving *Sivapriya Rajan, Dr.Rahul Shajan*	1370 - 1373
Biometrics Security System *Midhun Mani, Naveen Vinod, Jewel George*	1374 - 1378
A Review on Decision Theory *Annu Elizabeth Jose, Annmariya Joshy, siji Antony*	1379 - 1381
IoT Based Smart Diagnosis in EVs (Electric Vehicles) *Salu K Binu, Sona Saji, Haarrish Sabu*	1382 - 1387
A Systematic Review of Threats in Data Sharing *Prathibha Prakash, Mr.Akhil Sekharan*	1388 - 1391
Wireless Sensor Network for Healthcare *Meghna B Nair, K B Sudharsana, Remya R*	1392 - 1395
Enhancing The Quality of Medical Processes Using Software Engineering Methodologies *Muhsina Muhammed,Meenu shaji, Jissymol Jiji*	1396 - 1400
A New Trend on Weather Forecasting Prediction Using Big Data Sits	1401 - 1404

PRINCIPAL
SANTHIGIRI COLLEGE OF COMPUTER SCIENCES
VAZHITHALA P. O., THODUPUZHA
KERALA, PIN : 685 583

Application *Adhithyan R, Abhiram Babu, Joseph George*	
Systematic Study of Sentiment Analysis for Customer Reviews *Gopika Vijayan, Liz George*	1405 - 1408
Gesture Recognition Technology *Jude Prakash, Sayanth Jose, Mathews P Jose*	1409 - 1410
Robotics and Automation in Healthcare *Anna Benchy, Adithya Rajeev, Leema George*	1411 - 1415
Big Data and Its Challenges in Security *Anna Scaria, Anumol Jose, Dr. Regunath K*	1416 - 1419
Big Data Analytics in Heart Attack Prediction *Anmary Sunny, Anagha Saju, Sigma Sathyan*	1420 - 1423
Monitoring a Pregnancy at Home *Erin Roy, Nandana B Nair, Dalbina Dalan*	1424 - 1427
IoT Applications in Smart House and Offices *Aswany Ghosh, Aparna Vinod, Athul Krishna Binu*	1428 - 1430
Internet of Things in Library *Shalima George, Saheer khan*	1431 - 1433
A Study about AI and ML: Exploring the Advancement of Generative AI Models *Nicholes Charles, Sidharth Venugopal, Resmi K R*	1434 - 1437
A Review on Securing Database using Steganography *Sandra Sunny, Alby Sunny, Amitha Joseph*	1438 - 1443
Deep Learning to Identify Plant Species	1444 - 1447

SANTHIGIRI COLLEGE OF COMPUTER SCIENCES * VAZHITHALA * THODUPUZHA * KERALA * 685 583

PRINCIPAL
SANTHIGIRI COLLEGE OF COMPUTER SCIENCES
VAZHITHALA P. O., THODUPUZHA
KERALA, PIN : 685 583

Fayas Rasheed, Liz George	
A Study on precision farming techniques using IoT Precision Farming Techniques *Vaishnavi Das, Vishnu Suresh, Urmila Joshy*	1448 - 1452
Chatbots in Healthcare *Nandhana Prasanth, Nousia Nazar, Deepa M*	1453 - 1454
Artificial Intelligence through Surgical Robotics *Anamika Vijayan , Adithya Ashok, Abhija Ashok*	1455 - 1457
Pollution Control Using Internet of Things (IoT) *Adithya Ajay, Alan George,Amal Sunny*	1458 - 1461
Survey Of Neuromorphic Computing and Neural Networks in Hardware *Reshma Roy, Dr. Rahul Shajan*	1462 - 1465
Consumer Perception Towards Digital Banking: A Review *Haseena T M, Fathima M A, Sruthi Ravi*	1466 - 1470
A Survey on Diabetes Prediction Using Machine Learning *Rintu Raju, Dr.Rahul Shajan*	1471 - 1474
Robotics in Space Exploration *George Benny, Leema George*	1475 - 1478
Virtual Driver *Jain Raju, Likeson Saviyo, Rajesh A V*	1479 - 1480
Application Of Data Mining in Agriculture *Vishnudathan K H, Sachin T R, Rajesh A V*	1481 – 1482
Comparative Study using different classifiers in Machine Learning in	1483 - 1487

SANTHIGIRI COLLEGE OF COMPUTER SCIENCES
THODUPUZHA
KERALA
685 583

PRINCIPAL
SANTHIGIRI COLLEGE OF COMPUTER SCIENCES
VAZHITHALA P. O., THODUPUZHA
KERALA, PIN : 685 583

Ishaemic Heart Disease *Nikhitha V, Pournami Raju, Dr. Neetha Thomas*	
A Review on Random Forest Measurements To Assess And Predict Student Learning of Software Engineering Teamwork *Karthik Suresh, Jibin Biju, Karthika Santhosh*	1488 - 1494
The Marketing Field and Its Predictions using the Big Data *Amratha Lal, Aneena Benny, Sigma Sathyan*	1495 - 1496

International Journal of Scientific Development and Research

SANTHIGIRI COLLEGE OF COMPUTER SCIENCES * VAZHITHALA * THODUPUZHA KERALA 685 583

PRINCIPAL
SANTHIGIRI COLLEGE OF COMPUTER SCIENCES
VAZHITHALA P. O., THODUPUZHA
KERALA, PIN : 685 583

Review On MusicLM

[1]Mr. Akshay R, [2]Mr. Albin P Devasia, [3]Ms. Dalbina Dalan

[1]Student, [2]Student, [3]Asst.Professor
Department Of Computer Sciences,
Santhigiri College Of Computer Sciences, Vazhithala, India

Abstract: Using text descriptions like "a relaxing violin melody supported by a distorted guitar riff," we introduce MusicLM, a methodology for creating high-fidelity music from text. MusicLM creates music by modelling the conditional music generating process as a hierarchical sequence-to-sequence job.That is constant for several minutes at 24 kHz. According to our tests, MusicLM works better than older systems in terms of audio quality and fidelity to the written descriptions. Additionally, we show that MusicLM can be conditioned on both text and a melody by showing how it can change whistled and hummed melodies to match a text caption's description of that style. We openly offer MusicCaps, a dataset of 5.5k music-text pairs with extensive text descriptions written by human specialists, to aid future research.

Index Terms: MusicLM, MIDI, Text prompt, melody. *(keywords)*

I. INTRODUCTION

There are many uses for conditional neural audio creation, including text-to-speech (Zen et al., 2013; van den Oord et al., 2016), lyrics-conditioned music generation, and audio synthesis from MIDI sequences (Hawthorne et al., 2022b). A certain degree of temporal synchronization between the conditioning signal and the accompanying auditory output makes these jobs easier. Contrarily, recent work has investigated producing audio from sequence-wide, high-level captions like "whistling with the wind blowing" as a result of advancements in text-to-image generation (Ramesh et al., 2021; 2022; Saharia et al., 2022; Yu et al., 2022). Although it is a milestone to produce audio from such crude captions, these models are still only capable of simulating basic acoustic scenarios. a few brief acoustic occurrences spread over a few seconds. It is still difficult to convert a single written caption into a complex audio sequence with long-term structure and numerous stems, like a music clip.

II. MusicLM IN DETAIL:

-A framework for an audio generation has recently been presented, called AudioLM (Borsos et al., 2022). Using a hierarchy of coarse-to-fine audio discrete units (or tokens) and a discrete representation space to describe audio synthesis as a language activity, AudioLM achieves high fidelity and long-term coherence over many seconds. Additionally, AudioLM learns to produce realistic audio from audio-only corpora, be it speech or piano music, without any annotation because it makes no assumptions about the content of the audio stream. Modeling a variety of signals reveals that such If a system was educated on the right data, it may produce outputs that were richer. The lack of coupled audio-text data, in addition to the inherent difficulties of synthesizing highquality and coherent audio, is a barrier to progress. Contrast this with the picture domain, where the accessibility of large datasets substantially aided in the recent achievement of amazing image creation quality (Ramesh et al., 2021; 2022; Saharia et al., 2022; Yu et al., 2022). Additionally, word explanations of general sounds are much more difficult to write than text descriptions of graphics. First off, describing the key elements of either acoustic scenes—such as the noises heard in a railway station or a forest—or music—such as the melody, the rhythm, the timbre of vocals, and the numerous instruments used as accompaniment—in just a few words is not always easy. Second, sequence-wide captions are a considerably weaker level of annotation than an image caption since audio is organized along a temporal dimension. We introduce MusicLM, a model for producing high-fidelity music from text descriptions, in this study. MusicLM extends AudioLM's multi-stage autoregressive modelling to include text conditioning while still using it as the generative component. We rely on MuLan (Huang et al., 2022) a joint music-text model that is trained to project music and its related text description to representations adjacent to each other in an embedding space to handle the primary obstacle of paired data scarcity. Captions are not required during training time thanks to this shared embedding area. [cs] altoarXiv:2301.11325v .SD] 26 Jan 2023 With MusicLM: Generating Music From Text, training is possible using sizable audioonly corpora.In other words, during training, we utilize MuLanembeddings computed from the audio as conditioning, whereas we use MuLanembeddings computed. For text descriptions of significant complexity, such as "enchanting jazz song with a memorable saxophone solo and a solo singer" or "Berlin 90s techno with a low bass and forceful kick," MusicLM can be trained to produce extended and coherent music at 24 kHz. We introduce MusicCaps, a new high-quality music caption dataset with 5.5k instances created by professional musicians, which we openly distribute to enable further research on this issue. Our research demonstrates that MusicLM works better than earlier systems like Mubert (Mubert-Inc, 2022) and Diffusion (Forsgren & Martiros, 2022) in terms of both quality and adherence to the caption. Furthermore, we demonstrate how our system enables conditioning signals outside of language as explaining some features of music with words might be challenging or even impossible. In order to create a music clip that matches the intended melody and is rendered in the manner specified by the text prompt, we specifically expand MusicLM to receive an extra melody in the form of audio (for example, whistling or humming) as conditioning.

III. MUSIC:LM

MusicLM can instantly create music in any genre just like an experience music producer could do. However, unlike a human producer, who would be familiar with just a couple of instruments and music forms, Google's MusicLM can create short, medium, and long-form music in almost any genre.

PRINCIPAL
SANTHIGIRI COLLEGE OF COMPUTER SCIENCES
VAZHITHALA P. O., THODUPUZHA
KERALA, PIN : 685 583

A Study on Graph Labelling and Its Applications

[1]Likesy Saviyo, [2]Josna John, [3]Dona Jose

[1]Degree Student,[2]Degree Student,[3]Assistant Professor
[1]Department of Computer Science, Kerala, India, Computer Science, Kerala,

Abstract: In the field of mathematics Graph Theory plays vital role in numerous ways. Among these, one of the important areas in graph theory is Graph Labelling. It is used in many applications like coding theory, x-ray crystallography, radar, astronomy, circuit design, communication network addressing, data base management etc. This paper addresses an idea of labelling graphs in heterogeneous fields to some extent but mainly focuses on the communication networks. Communication network has two types 'Wireless communication' and 'wired communication'. This paper also explored a part of labelling graphs in expanding the utility of process in communication networks. This paper give an overview of how the method of graph labelling be applied to social networks, network security, channel assignment process, network addressing. An overview and new inventiveness has been proposed here.

Keywords: labelling, graceful labelling, graph colouring, crystallography

I. INTRODUTION

The field of Graph Theory plays a vital role in various fields. Graph Labelling is the assignment of integer's from 1 to n for vertex, edges and both of the graphs respectively. One of the important area in graph theory is Graph Labelling which is used in many applications like coding theory, radar, astronomy, circuit design, missile guidance, communication network addressing, x-ray crystallography, data base management. Here we would like to enhance the graph labelling applications in the field of computer science. This paper gives an overview of labelling of graphs in heterogeneous fields to some extent, but mainly focuses on important major areas of computer science like data mining, image processing, cryptography, software testing, communication networks etc....These are various subjects in engineering studies and these are more expertly used in various sectors like government sectors, corporate sectors. Various papers based on graph theory and graph labelling applications have been studied and we explore the usage of Graph Labelling in several areas like data mining, communication networks, image processing, cryptosystem, computer science applications and an overview has been proposed here.[1]

II. GRAPH LABELING

In the mathematical application of graph theory, graph labelling is the process of assigning labels to a graph's edges and vertices, which are often represented by integers.

Consider graph G = first (V, E). A graph with such a function specified is referred to as a vertexlabelled graph. A vertex labelling is a function of V to a collection of labels. An edge-labelled graph is one that has edges that are labelled as a function of E and a set of labels. It is referred to as a weighted graph when the edge labels are individuals from an ordered set. The phrase "labelled graph" often refers to a vertex-labelled graph with different labels when used without qualifier. A graph of this type can be equivalently labelled by the numbers 1...., |V|, where |V| is the graph's vertex count.[2]

According to the definition above, a graph is a finite undirected simple graph. The concept of labelling, however, is applicable to all graph extensions and generalisations. Consider labelled multigraphs, for instance, as they are practical to use in formal language theory and automata theory.

III. SPECIAL CASES

i. Graceful Labelling

When a graph's edges are labelled from 1 to |E| and its vertices are labelled from 0 to |E|, the graph is said to be gracious. The positive difference between the two vertices occurring with any edge e serves as its label. In other words, E will be labelled |i j| if it is incident with the vertices I and j. The only way a graph G = (V, E) can be elegant is if and only if an injection exists that causes a bijection from E to the positive integers up to |E|.

ii. Edge-Graceful Labelling

An edge-graceful labelling on a simple graph without loops or multiple edges on p vertices and q edges is a labelling of the edges by distinct integers in {1, ..., q} such that the labelling on the vertices induced by labelling a vertex with the sum of the incident edges taken modulo p assigns all values from 0 to p − 1 to the vertices. A graph G is said to be "edge-graceful" if it admits an edge-graceful labelling.

iii. Harmonious Labelling

On a graph G, a "harmonious labelling" is an injection from the vertices to the group of integers modulo k, where k is the number of edges in G, which results in a bijection between the edges of G and the numbers modulo k by assuming that the edge label for an edge (x, y) is the sum of the labels of the two vertices x, y. (mod k). A graph with a harmonic labelling is known as a "harmonious graph." If only one vertex label can be reused, it is hypothesised that all trees will coexist peacefully. [3]

iv. Graph Colouring

A subtype of graph labelling is graph colouring. While edge colouring assigns several labels to neighbouring edges, vertex colouring assigns various labels to adjacent vertices.

PRINCIPAL
SANTHIGIRI COLLEGE OF COMPUTER SCIENCES
VAZHITHALA P. O., THODUPUZHA
KERALA PIN: 685 583

Internet of Things in Road Safety

Gourisankar G[1], Gayathri Manjesh[2], Sebastian Cyriac[3]

Student[1], Student[2], Project Manager[3]
Santhigiri College of Computer Sciences[1,2], Embase Pro Suit Pvt Ltd[3]
Vazhithala, Idukki- India[1,2], Swift current, Saskatchewan- Canada[3]

Abstract:This You pick up a newspaper and you will find at least one or two reports about traffic accidents every day. They cause loss of life and material. People need to be more careful on the road, no matter what mode of transport you come from. Even those who walk are not safe due to the increase in these cases. So here I propose two devices where we can ensure road safety. In the first scenario, we designed an embedded device based on Arduino and a GSM module with GPS to send an emergency message with location and generate an alarm to mitigate and ensure the safety of people. This device notifies the police control center as well as family and friends. In the second scenario, we are developing a device to alert drivers who are drowsy while driving. We are concerned with a drowsy driver warning system developed using a technique in which video stream processing (VSP) is analyzed by the concept of eye blink using eye aspect ratio (EAR) and Euclidean eye distance.

Keywords: Arduino, GSM, VSP, EAR, Drowsy etc.

I. INTRODUCTION

As we all read the newspaper or watch the news headlines, one thing that is never missing from our daily headlines are the concerns regarding the safety of people at night and that is why many do not feel safe to step out. As the world gradually evolves, the security sector has advanced in terms of evolving existing technology but has yet to fully embrace the technology to its fullest value. To reduce the problems related to human security, we are working on the concept of incorporating robotics into the security sector, i.e., night patrol robot. Second, driver fatigue has been a major concern in countless accidents caused by fatigue, tiring road conditions, and adverse weather conditions.

Each year, the National Highway Traffic Safety Administration (NHTSA) and the World Health Organization (WHO) report that approximately 1.35 million people die from vehicle accidents worldwide. In general, traffic accidents usually occur as a result of inappropriate driving. These situations occur when the driver is addicted to alcohol or sleepy. The maximum types of fatal accidents are considered to be a serious factor in driver fatigue. When drivers fall asleep, they lose control of the vehicle. There is a need to design a smart or intelligent vehicle system through advanced technology. This document implements a mechanism to warn the driver of drowsiness or daydreaming.

II. NIGHT PATROL ROVER BOT

The construction of a wristwatch/Smart gadget. The block diagram for the women's safety gadget, which we can refer to as [2] a smart safety watch, is shown in (Figure1.1) [2]. In this watch, there is a SOS button built into the watch/gadget, in the event of an emergency, women must click the button, which causes the Arduino nano to read the input and collect the precise position of the person/women and send the location information, such as latitude and longitude values, to the phone number specified, such as friends, parents, or the police station this Aids in tracking the exact location. The Arduino nano sends the obtained location to the robot microcontroller, which assists the robot in reaching the location by sounding a siren. This [2] mechanism is triggered for self-defense, and a notification is sent to the touch [2]. Arduino IDE was used to write the input code in this project. We will be using a robot with an Arduino Mega, whichis a microcontroller board that will serve as the robot's main operating device, as well as a compatible motor controller that will act as an intermediary between the microcontroller, batteries, and motors, in our work. A Bluetooth module is also attached to the robot body in order to have a communication between the user's deviceand the robot, in order to exchange the longitudinal and latitude values to locate the exact location ,by using the GPS module which works by receiving information from GNSS satellites and then calculate the devicesgeographical position therefore the location from the person wearing our wrist band and so on, our robot will also be having a hmc5883l magnetometer/compass and theultrasonic motion sensors for the better tracking and reaching the location.

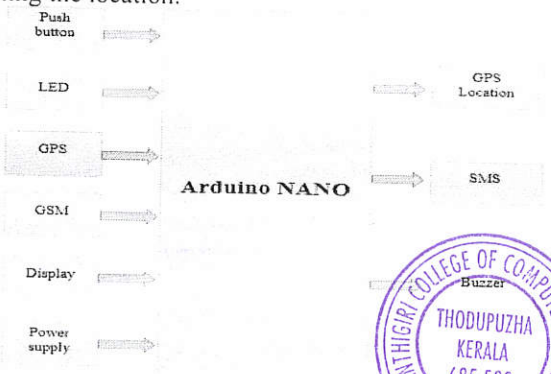


Fig 1.1: Proposed Design of Wrist Band

SANTHIGIRI COLLEGE OF COMPUTER SCIENCES
THODUPUZHA
KERALA
685 583
VAZHITHALA
PRINCIPAL
SANTHIGIRI COLLEGE OF COMPUTER SCIENCES
VAZHITHALA P. O., THODUPUZHA
KERALA, PIN : 685 583

Cloud Gaming: Architecture and Performance

[1]Prithwiraj Prakash, [2]Nakul S Kumar, [3]Dr. Neetha Thomas

[1]Student, [2]Student, [3]Assistant Professor
[1]Computer Science,
[1]Santhigiri College of Computer Science, Thodupuzha, India

Abstract: Recent developments in cloud computing have made the concept of "cloud gaming" a reality. In its most basic form, cloud gaming involves rendering an interactive game application remotely in the cloud and returning to the player via the Internet with scenes streamed as a video sequence. This is beneficial for less capable computing systems that would otherwise be unable to run high-quality games. Onlive and Gaikai, two industrial pioneers, have enjoyed market success and substantial user bases. In this article, we perform a methodical analysis of contemporary cloud gaming platforms and draw attention to the distinctiveness of their framework designs. We also measure their real world performance with different types of games, for both interaction latency and streaming quality, revealing critical challenges toward the widespread deployment of Cloud Gaming.

Index Terms: image processing, cloud gaming, interaction delay, image quality.

I. INTRODUCTION

Cloud computing has opened up numerous new possibilities for both new and existing applications thanks to the use of elastic resources and widely dispersed data centers. By utilizing cloud computing platforms, already-existing applications—from media streaming to file sharing and document synchronization—have seen significant improvements in their usability and system effectiveness. These technological developments are largely the result of exploiting the vast resources of the cloud through computational offloading and lowering user access latencies with carefully placed cloud data centers. The concept of cloud gaming has recently become a reality thanks to developments in cloud technology that now permit offloading of more complex tasks like high definition 3D rendering in addition to traditional computations.

In its most basic form, cloud gaming involves rendering an interactive game application remotely in the cloud and streaming the scenes as a video sequence back to the player over the Internet. The thin client, which is in charge of showing the video from the cloud rendering server as well as gathering the player's commands and sending the interactions back to the cloud, is how a cloud gaming user interacts with the application.. Onlive [1] , Gaikai [2] are two industrial pioneers of cloud gaming, both having seen great success with multimillion user bases. The recent 380 million dollar purchase of Gaikai by Sony [3], an industrial giant in digital entertainment and consumer electronics, shows that cloud gaming is beginning to move into the mainstream. From the perspective of industry, cloud gaming can bring immense benefits by expanding the user base to the vast number of less-powerful devices that support thin clients only, particularly smartphones and tablets.

As an example, the recommended system configuration for Need for Speed™ Heat, a highly popular racing game, is a quadcore CPU, 16 GB RAM, 50 GB storage space, and a graphics card with at least 4GB RAM (e.g., NVIDIA GEFORCE GTX 1060 or RADEON RX 480), which alone costs more than $500. The newest tablets (e.g., Apple's iPad with Retina display and Google's Nexus 10) cannot even meet the minimum system requirements that need a dual-core CPU over 3.40 GHz, 8 GB RAM, and a graphics card with 2 GB RAM, not to mention smartphones of which the hardware is limited by their smaller size and thermal control. Additionally, compared to PCs, mobile terminals have different hardware and software architecture, such as ARM rather than x86 for the CPU, lower memory frequency and bandwidth, power restrictions, and unique operating systems. As a result, the conventional console game model is impractical for such devices, which turn into targets for Gaikai and Onlive. Because the computational hardware is now entirely under the control of the cloud gaming provider, cloud gaming also lowers the cost of customer support while also providing better Digital Rights Management (DRM) due to the fact that the codes are not directly executed on a customer's local device.

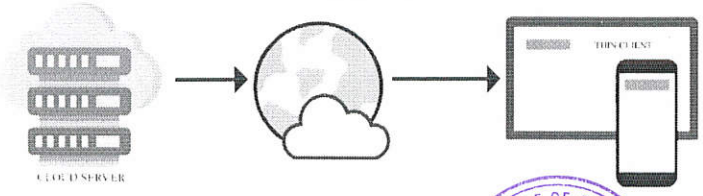


Fig 1 : Cloud Gaming Overview

II. CLOUD GAMING : ISSUES AND CHALLENGE

Interaction Delay Tolerance

Different game types have different maximum tolerable delay [4] thresholds, according to studies on traditional gaming systems. Table I lists the longest delay that a typical player can stand before the quality of their experience (QoE) starts to suffer.

SANTHIGIRI COLLEGE OF COMPUTER SCIENCES THODUPUZHA KERALA 685583
PRINCIPAL
SANTHIGIRI COLLEGE OF COMPUTER SCIENCES
VAZHITHALA P. O., THODUPUZHA
KERALA, PIN : 685 583

An Overview about Smart Contracts

[1]Mr. Alen Geo Alex, [2]Ms. Sigma Sathyan

[1]Student, [2]Assistant Professor
Department of Computer Science,
Santhigiri College of Computer Sciences, Vazhithala Thodupuzha, Kerala

Abstract: The blockchain technology's smart contracts are a compelling aspect. Traditional contracts can take weeks or even months to begin, and both in the public and private sectors, there have been many instances of breaches and a lack of trust in contracts. In order to negotiate, run, and implement a settlement between two parties, a digital contract executes at the top of the blockchain [1]. Smart contracts can promote transaction credibility between contracting parties without the need for third parties as demonstrated by traditional contracts thanks to the security and decentralized system exhibited by blockchain technology. This paper highlights the uses, advantages, and limitations of smart contracts and demonstrates how they can be deployed in an organization to improve performance using blockchain technology.

Index Terms: Blockchain, Bitcoin IoT, Cryptography, solidity, Ethereum

I. INTRODUCTION

The rise of cutting-edge technology has increased business competition as each seeks to use them to boost workforce productivity and the overall effectiveness of the company. Technology has consequently evolved into a crucial part of corporate operations and a key driver of innovations and competitiveness for companies. Smart contracts are one of the modern, more dependable, and cost-effective business mechanisms that have replaced old ways of doing business by companies.

Currently Blockchain, the underlying technology for Bitcoin provides various services, including data storage, digital asset transfer, and transaction management, via a decentralized computer architecture. Intelligent contracts, also known as smart contracts, are another innovation in the blockchain space that automate contract clauses using triggers programmed in software. These previously generated and defined triggers could, for instance, be dates when particular terms of a contract will be executed.

II. WHAT ARE CONTRACTS

Definition of Traditional Contracts

The phrase "contract" is widely used and has been for a long time. A collection of commitments made by the parties done for a deal are recorded in the contract. The term contract is a common way to communicate with the buyer, seller, and any other parties engaged in a transaction. The term "conventional contracts" refers to written contracts where the terms are specified along with any relevant conditions. They are also known as building lock of a free market economy. These contracts are a crucial component of daily life that benefit us in a variety of ways, particularly when interacting with other people or businesses.

Problems with Traditional Contracts

Despite the fact that we have been using these contracts for a very long time, there are many issues with them when it comes to safety, security, autonomy, integrity or any other crucial property in a trade. Since the globe is witnessing a digital revolution, everything is changing quickly and the world is heading in that direction. Still with the traditional contracts if a contract breach occurs, the participants must go through a tough procedure. To accomplish their goals, they must interact with law enforcement officials, validate the genuineness and integrity of the contract to the authorities and may even go to court by coercing other parties or participants through the use of force, whether that be financial or otherwise.

The completion of traditional contracts takes time, The amount of time required to organize, design, and create a standard contract can range from one to several days, depending on the quality of the legal services and the preparedness of the contract's parties. A traditional contract is thought to be expensive since there are allegedly "hidden expenses" when taking into account prospective contract complications, such as arbitration, in addition to the third party's need to make a profit. The contractual process demands physical labor, supplies like paper and ink, and other resources, which raises the transaction cost of a contract.

Furthermore, a contract should undoubtedly possess the quality of authenticity. Traditional contracts can indeed be altered or forged if they are not properly safeguarded or examined by a qualified professional. A few minor phrase adjustments can have a significant impact on the final agreement. Traditional contracts also have the drawback of being signed by one party on both ends without the other party's knowledge.

We required a solution that would substitute digital contracts for the conventional paper-based ones. In order to address this issue, Nick Szabo was the first person to use the term "Smart Contracts" in 1996.

III. BLOCKCHAIN AND BITCOIN

Blockchain technology

Blockchain is a growing collection of information known as blocks that are connected and secure via cryptography. The P2P protocol used by blockchain can tolerate single points of failure. The consensus process guarantees the consistency and integrity of the blockchain across geographically dispersed nodes and a consistent, clear ordering of transactions and blocks. Blockchain was created with attributes like decentralization, integrity, and auditability. Blockchain has the potential to act as a revolutionary type of software connector that can potentially replace the current centralized shared data storage with a decentralized one.

SANTHIGIRI COLLEGE OF COMPUTER SCIENCES THODUPUZHA KERALA 685 583 VAZHITHALA

PRINCIPAL
SANTHIGIRI COLLEGE OF COMPUTER SCIENCES
VAZHITHALA P. O., THODUPUZHA
KERALA, PIN : 685 583

A Review on Open AI based ChatGPT

[1]Ms Ayalin Roy, [2]Ms.Aliyona Tomy, [3]Ms Dalbina Dalan

[1]Student, [2]Student, [3]Assistant professor
[1] Department of Computer Science
[1]Santhigiri College of computer Sciences Vazhithala, Thodupuzha, India

Abstract: ChatGPT is a large language model developed by OpenAI, trained in a divorce range of internet text to generate human-like responses to text inputs. ChatGPT can perform a variety of language task such as answering questions, generating text, summarizing long pieces of text, machine translation and text classification. ChatGPT is a highly advanced AI model that offers state-of-the-art performance in generating human-like text and It has been proven to be a valuable tool for a variety of industries including customer service, content creation, conversational AI, medical field and film industry. Its coherent Output have made it a popular choice among developers and businesses. ChatGPT, which stands for Chat Generative Pretrained Transformer is used to quickly and efficiently respond to customer inquiries, provide accurate and helpful information in a manner that is indistinguishable.

Index Terms: Introduction, Application, Comparison.

I. INTRODUCTION TO OPEN AI AND GPT SERIES

OpenAI is a research organization that develops and promotes friendly AI in a responsible way, it was founded in 2015 by Elon Musk and Sam Altman. The organization was established with a mission that artificial intelligence benefits all humanity. Open AI has developed many cutting-edge AI models, including the GPT series of language models. One of the Open AI most notable contribution to the field of AI is its development of GPT series language models, including ChatGPT. These models are based on the transformer architecture and have set new standards in the field of language generation and processing, providing highly coherent and human-like outputs, GPT(Generative Pretrained Transformer) is a transformer-based on deep learning architecture for NLP task such as text generation, translation and summarization. GPT-3 is the largest and greatest GPT series. In customer service ChatGPT is used to quickly and efficiently respond to customer inquiries, providing accurate and and helpful information in a manner that is indistinguishable from human representative. ChatGPT is a powerful and versatile language model that has wide range of aplications across many industries such as text generation, question answering, and summarization, medical and even Film industry. Due to its large size of NLP tasks, ChatGPT become a popular choice for developing conversational AI applications, such as chatbots. ChatGPT is designed to be user-friendly and easy to use. With its conversational interface and natural language processing capabilities, it can understand and respond to human-like queries and commands. This allows for a more intuitive and efficient user experience compared to traditional search methods or databases. Additionally, ChatGPT can be integrated into various platforms, such as websites, mobile applications, or chatbots, making it accessible to a wide range of users. The technology can be customized to meet the specific needs of different industries and user groups, making it more versatile and flexible. Overall, the ease of use of ChatGPT makes it a valuable tool for various applications in different industries, including the medical field.

II.APPLICATIONS OF ChatGPT

ChatGPT is a powerful tool that can be used in a variety of applications, from customer service to medical field. One of the most common applications of ChatGPT is in customer service. By using the technology, businesses can create chatbots that can respond to customer inquiries in a natural and helpful manner,This can be used to reduce the workload of customer service agents, as the chatbot can handle many of the routine inquiries. Additionally, ChatGPT can be used to provide customers with personalized responses that are tailored to their individual needs. ChatGPT can be used in online education, by using this technology, teachers can create virtual tutors that can provide students with personalized feedback and guidance. The chatbot can be used to answer student questions, provide helpful hints, and even provide personalized feedback on assignments. This can help students learn more effectively and can help teachers save time by reducing the amount of time they need to spend answering student questions. ChatGPT can also be used in film industry and Medical field, in film industry chatGPT can be used for dialogue generation and even it is used in script writting recent updates says that ChatGPT will be writing the script for the movie Drishyam 3, in medical field ChatGPT has a wide range of application such as clinical decision supporter, medical content generator, medical research supporter etc.... Overall, ChatGPT is a powerful tool that can be used in a wide range of applications, from customer service to medical field this technology can help businesses ,teachers and doctors to save time and provide customers, students and patients with personalized responses and improve efficiency, accuracy, and accessibility in medical field. As the technology continues to evolve, it is likely that more applications of ChatGPT will be discovered.

III.COMPARISON BETWEEN GOOGLE AND ChatGPT

Google and ChatGPT both are AI-powered technologies that are designed to provide information and knowledge, but they have some key differences:

1. Information Sources: Google searches the entire web for information, while ChatGPT is trained on a large corpus of text data and can generate its own answers based on that information.
2. User Interaction: Google is a search engine that requires users to input keywords to retrieve information, while ChatGPT is a conversational AI model that can understand and respond to natural language queries and commands.

SANTHIGIRI COLLEGE OF COMPUTER SCIENCES THODUPUZHA KERALA 685 583 VAZHITHALA

PRINCIPAL
SANTHIGIRI COLLEGE OF COMPUTER SCIENCES
VAZHITHALA P. O., THODUPUZHA
KERALA, PIN : 685 583

Centralized Software Management in Computer Networking

[1]Jotten Ben John, [2]Viswajith K V, [3]Deepa M

[1]Student, [2] Student, [3]Teacher

Abstract: In modern computer networks log dispatches produced on different bias throughout the network is collected and anatomized. The data from these log dispatches gives the network directors an overview of the networks operation, allows them to descry problems with the network and block security breaches. In this thesis several different centralized log operation systems are anatomized and estimated to see if they match the conditions for security, performance and cost which was established. These conditions are designed to meet the stakeholder's conditions of log operation and allow for scaling along with the growth of their network.

Index Terms: centralized management, distributed system, decentralized system, network operation, server

I. INTRODUCTION

A commercial computer network generally consists of numerous different electronic bias, power distribution systems, and work consoles. With centralized network operation, all of these can be managed from a single control station or garçon. Businesses frequently to tend to add outfit and software to networks that can make them more complex; the number of systems to manage is occasionally so large there's a lack of connections between distant corridor [1][6]. Centralized operation generally makes stoner access, data storehouse, and troubleshooting more accessible[4]. Managing a network generally includes monitoring performance, but security, balancing of processor loads, and business operation are generally important as well. A garçon can be consolidated to cover colorful functional parameters. It can reply in response to particular conduct or if certain situations of business or processing exertion are reached. functional and security programs can also be set in the system so that centralized network operation can be performed efficiently[2].

II. CENTRALIZED MANAGEMENT

Centralization refers to the process in which conditioning involving planning and decision- making within an association are concentrated to a specific leader or position. In a centralized association, the decision- making powers are retained in the head office, and all other services admit commands from the main office. The directors and specialists who make critical opinions are grounded in the head office.

III. IMPORTANCE OF CENTRALIZED MANAGEMENT

When you can only reply to operation performance issues and security pitfalls, your business will suffer. Proactively addressing network issues is the key to staying ahead of monitoring and security demands. Creating a pervasive visibility subcaste is the first step toward being more visionary. But the each-important alternate step for enterprise IT leaders is to apply a operation strategy that actually enables to fluently manage the visibility subcaste and optimize network tools and security appliances by transferring the right business to the right tool. A well managed visibility subcaste, empowers network mindfulness in real- time, easing rapidfire responses to constantly- changing demands. Fortinet centralized operation results include the FortiManager and FortiAnalyzer products. FortiManager provides the centralized operation of multiple FortiGate bias in a single operation view. The FortiAnalyzer provides a centralized view of real- time & literal logging along with reporting capabilities of logs collected from FortiGate bias and colorful Fortinet products. Fortinet's approach in offering two promised factors for centralized operation provides a scalable and flexible option for consumer[9].

Centralized management: one of the best options for your company

"Pragmatism", "saving" and "effectiveness" are words that should be engraved on your brain, especially if you are one of those who want their business to be profitable . But let us add a new one right now: "centralized management".It is completely viable and it has been a major breakthrough, thanks to technology.

During the last few years, companies have been trying to get a hold of a range of tools that enables them to establish a more centralized management. Their goal is simple: **save time and space**. Therefore, it must be clear that technology is essential when managing the large amount of information generated by a company. Centralized operation tools are formerly overcrowding the request since they're extremely useful. They represent a whole new revolution, one of those that awaken our sense of rebellion. These means allow us to reduce the disadvantages of a decentralized and multi focus administration. Now, at last, you can transfer numerous aspects of your day to day operability to a single office that works as headquarters. It's clear that if you have a company made up of several structures, companies, or grocery stores and you want to set the centralization you need in stir, you must transfer the most important departments from each position to the central headquarters. Of course, to achieve this you'll have to take a chance on centralization technology. latterly on, we will give you some advice on this content, because without it consolidated operation would make no sense[3].

Effects

- The effect of centralized operation on certain diurnal aspects of your business will be plainly clear, similar as resource optimization, since the costs will be vastly dropped. Centralization means saving, lower outfit, lower staff and lower licenses.

SANTHIGIRI COLLEGE OF COMPUTER SCIENCES * VAZHITHALA * THODUPUZHA KERALA 685 583

PRINCIPAL
SANTHIGIRI COLLEGE OF COMPUTER SCIENCES
VAZHITHALA P. O., THODUPUZHA
KERALA, PIN : 685 583

The Marketing Field and Its Predictions using the Big Data

[1]Amratha Lal, [2]Aneena Benny, [3]Sigma Sathyan

[1]Student, [2]Student, [3]Assist.Professer of Dept. Computer Science
[1]Department Of Computer Science,
[1]Santhigiri College of Computer Science, Vazhithala, Thodupuzha, India

ABSTRACT: Big data in marketing and retailing prediction is the use of large datasets to identify patterns and trends in customer behavior. This data can be used to make predictions about future customer behavior, such as what products they may purchase, when they may purchase them, and how much they may spend. By leveraging big data, retailers can better understand their customers and tailor their marketing and retailing strategies to meet their needs. Additionally, big data can be used to recognize new good times for growth and expansion.

Keywords: Big data,Marketing predictions,Harnessing potentional of big data

I. Introduction

Big data is revolutionizing the marketing field by providing marketers with unprecedented insights into customer behavior and preferences. By leveraging big data, marketers can better understand customer needs and develop more effective marketing strategies. Big data can also be used to predict customer behavior and trends, allowing marketers to anticipate customer needs and develop strategies to capitalize on them. Additionally, big data used to identify new opportunities for growth and expansion. By leveraging big data, marketers can gain a competitive edge and increase their ROI

II. Big data

Big data marketing is the use of large datasets to identify patterns and trends in order to better understand customer behavior and make more informed marketing decisions. It involves collecting, analyzing, and interpreting large amounts of data to gain insights into customer preferences, buying habits, and other marketing-related activities. Big data marketing can help businesses target their marketing efforts more effectively, optimize their campaigns.

III. Applications of big data

1. Healthcare: Big data is being used to improve healthcare outcomes by on condition that well treatment and diagnosis options. It can also be used to identify potential health risks and provide personalized care.
2. Retail: Big data is being used to improve customer experience by providing personalized recommendations and targeted marketing. It can also be used to optimize inventory management and pricing.
3. Banking: Big data is being used to detect fraud and improve customer service. It moreover used to connect potential.

IV. Marketing

Marketing is the process of create, communicate, and deliverd value to guests and managing client connections in ways that profit the association and its stakeholders. It involves researching, promoting, dealing , and distributing products or services to guests. It also involves relating client requirements and wants, understanding their geste , and developing strategies to meet those requirements and wants. Marketing is a crucial element of any business and is essential for success.

V. Marketing prediction

The future of marketing is likely to be heavily focused on digital channels, such as social media, search engine optimization, and content marketing. Companies will need to be agile and able to quickly adapt to changing consumer behaviors and preferences. Additionally

marketers will need to be able to leverage data and analytics to better understand their target audiences and create more personalized experiences. Artificial intelligence and machine learning will also play a larger role in marketing, allowing marketers to automate certain tasks and gain insights from customer data. Finally, marketers will use blockchain technology to create more secure and transparent marketing.

VI. Challenges harnessing potential in big data marketing

1. Data Collection: Collecting the right data from the right sources is a challenge. Companies need to ensure that they are collecting data from reliable sources and that the data is accurate and up-to-date.
2. Data Storage: Storing large amounts of data is a challenge. Companies need to ensure that they have the right infrastructure in place to store and manage the data.

VII. Conclusion

Big data marketing prediction is a powerful tool for businesses to gain insights into customer behavior and preferences. By leveraging the power of big data, businesses can gain a better understanding of their customers and develop more effective marketing strategies. Big data marketing prediction can also help businesses identify new opportunities and optimize their marketing efforts. With the right data and analytics, businesses can make more informed decisions and maximize their return on investment.

VIII. References

1. https://core.ac.uk/download/pdf/214515353.pdf
2. https://www.researchgate.net/publication/323664305_B ig_data_in_marketing_research
3. https://learn.microsoft.com/enus/azure/architecture/data-guide/big-data/
4. https://learn.microsoft.com/enus/azure/architecture/data-guide/big-data/

SANTHIGIRI COLLEGE OF COMPUTER SCIENCES THODUPUZHA 685 583 VAZHITHALA

PRINCIPAL
SANTHIGIRI COLLEGE OF COMPUTER SCIENCES
VAZHITHALA P. O., THODUPUZHA
KERALA, PIN : 685 583

A Review on Decision Theory

[1]Annu Elizabeth Jose, [2]Annmariya Joshy, [3]siji Antony

[1]Student, [2]Student [3]Assistant Professor
[1]Department of Computer Science
[1]Santhigiri College of Computer Sciences, Vazhithala, Kerala

Abstract: Decision theory is a descriptive approach used to classify degree of knowledge and verify the outcomes that is to occur.There may be success or failure depends on the ability of making correct decisions on time.To arrive under a decision,a decision maker should be accurate to make appropriate decision.Inorder to identify the best one,decision theory is important.This paper attempts to say the decision aspects as a disciplined approach.Decision theory provides a framework for rational decision making in an environment of uncertainity and risk.In certain situations a decision maker needs to make either a single decision or a sequence of decisions.Actually decision theory is the study of a person or agent's choices.

Index Terms: Decision Maker, Problem Solver, Operation Research

I. INTRODUCTION

Operational Research is a never ending process, which have the continuity and the results leads to other studies. Decision making is a difficult task that affect many people. Decision makers wants to fulfill this in the result.Good knowledge is required to handle research techniques. Each decision making produces a perfect result. Decision making consists of identification of a problem and ends with a correct result. The degree of knowledge is classified via the decision theory. The degree of knowledge consists of four categories: complete knowledge, ignorance, risk and uncertainty [1].Essential components of a decision model irrespective of type-decision alternatives depend on the previous decisionsmade and their outcomes.States of nature is an event which is not under the control of decision makers.Payoff is a numerical value obtained through the application of decision alternatives and states of nature.For example,people are nothing more than the results of their own choices.Companies can read,attract,influence and control user's minds which contradicts the decision theory.Social media and online streaming platforms track viewer's choices,such as pages they like,dislike,share,post etc.Netflix is an example of how viewers watch more than just an algorithm to attract and become addicted.In addition,a new web series is often released a day before the holiday or only on weekends,a specific type of content is always present in the instagram feed,and one particular Youtube video suggestion is returning over and over again.

Decision theory is concerned with the reasoning underlying an agent's choices,whether this is a choice between taking the bus or getting a taxi,or a more far-reaching choice about whether to pursue a demanding political career.

II. CONTENTS

Situations of decision making:

Decisions are made on the information available as well as the decision situation.There are three types of decision making situations:

Decision making under certainty

In this situation,only one possible state of nature exists.The decision maker has the complete knowledge of each and every consequences. Process:

Assign equal probabilities to each payoff of a strategy,determine the expected payoff value for each alternative.Select the alternative which corresponds to the maximum of the payoffs [2].

For example,every farmer has knowledge of the time periods for growing crops.Therefore they make definite decisions within the relevant time frame.That is they have prior knowledge of the decision they make.

Decision making under uncertainty

In this situation only pay-offs are known and nothing is known about the state.

Process:

Assign unequal probabilities and determine the payoff and select the alternatives for the minimum of the payoffs.

For example,when a consumer buys goods,they know what they are getting and how much utility they get from their consumption but for some goods,it means games or lotteries outcome is uncertain.

Maximin and Minimax Strategy

These are the criterias to obtain the decisions making under risk.

Maximin Criteria:This criteria is used to maximize the minimum possible pay-off.This criteria has least possible loss,so it is also known as pessimistic decision criteria.

The method is:

*Choose the lowest outcome for each alternative.

*Choose the alternative associated with the maximum of these.

Minimax Criteria:This criteria is to minimizes the maximum possible pay-off.This criteria has the greatest possible gain.

The method is:

*Choose the highest outcome for each alternative.

*Choose the alternative associated with the minimum of these.

SANTHIGIRI COLLEGE OF COMPUTER SCIENCES * VAZHITHALA * THODUPUZHA KERALA 685 583

PRINCIPAL
SANTHIGIRI COLLEGE OF COMPUTER SCIENCES
VAZHITHALA P. O., THODUPUZHA
KERALA PIN : 685 583

IoT Based Smart Diagnosis in EVs (Electric Vehicles)

[1]Salu K Binu, [2]Sona Saji, [3]Haarrish Sabu

[1,2]Student, [3]Assist.Professor of Dept. Computer Science
[1,2]Department Of Computer Science,
[1]Santhigiri College of Computer Science Vazhithala, Thodupuzha, India

Abstract: Electric vehicles (EVs) are becoming increasingly popular due to their environmental benefits and cost savings.However,the complexity of the EV powertrain and its components can make it difficult to diagnose and repair problems.This paper proposes an IoT based smart diagnosis system foe EVs that uses sensors and data analysis to detect and diagnose faults in the EV powertrain.The system uses sensors to collect data from the EV powertrain and then uses machine learning algorithms to analyze the data and detect any anomalies.Internet of Things (IoT) technology to develop a smart diagnosis system for electric vehicles. The system would use sensors to detect and diagnose faults in the vehicle's electrical system, and provide real-time feedback to the driver. The system would be able to detect and diagnose faults in the vehicle's electrical system, and provide real-time feedback to the driver. The system would also be able to detect and diagnose faults in the vehicle's mechanical system.The Internet of Things (IoT) has revolutionized the way we interact with the world around us. It has enabled us to connect with physical objects and systems in ways that were previously impossible. This has opened up a world of possibilities for the automotive industry, particularly in the area of electric vehicles. This paper will discuss the potential of using IoT-based smart diagnosis in electric vehicles.

Keywords: Implementation of smart vehicle,Battery Management System, Smart Driving, Battery Usage Data.

I. Introduction

The introduction of IoT based smart diagnosis in EVs (Electric Vehicles) is a revolutionary step towards the future of transportation. This technology will enable EVs to detect and diagnose any potential issues with their components and systems, allowing for a more efficient and reliable driving experience. With the help of IoT, EVs will be able to detect and diagnose any potential issues with their components and systems, allowing for a more efficient and reliable driving experience.The Internet of Things (IoT) is revolutionizing the way we interact with the world around us. From smart homes to connected cars, IoT is transforming the way we live and work. One of the most exciting applications of IoT is in the field of electric vehicles (EVs). With the help of IoT-based smart diagnosis, EVs can now be monitored and maintained more efficiently than ever before.[1]

II. Smart Vehicles Using IOT

The development of electric vehicles as smart vehicles with the help of Internet of Things (IoT) presents a real path to adding value to the transport industry. The IoT is a network of connected devices that allow for exchanging data and providing more insights that can help enhance safety, efficiency, and comfort.IoT can be used in electric vehicle applications to collect data on vehicle performance, such as battery temperature and voltage drop, as well as surrounding environmental data, such as temperature etc..

Steps for Implementing electric vehicles as a smart vehicles using IoT:

Integrate sensors into the electric vehicle to measure functionalities throughout the vehicle, such as speed, battery range, acceleration, and handling.

Connect the sensors to a wireless network, allowing data to be sent and received remotely.

Create an application for connecting the vehicle to external devices, such as phones or tablets.[2]

III. Safety and Smart Driving

IoT based smart diagnosis in EVs (Electric Vehicles) safety and smart driving is a technology that uses sensors and other connected devices to monitor the performance of an electric vehicle and detect any potential safety issues. This technology can be used to detect problems such as low battery levels, tire pressure, and other mechanical issues that could lead to an accident. It can also be used to detect driver behavior, such as speeding or aggressive driving, and alert the driver to take corrective action.Safety and smart driving can be used to improve the safety and performance of electric vehicles. This technology also can be used to monitor the performance of the vehicle, detect any potential problems, and alert the driver of any potential issues. It can also be used to provide real-time feedback on the vehicle's performance, such as fuel efficiency, battery life, and other important metrics.[3]

IV. Maintenance of a Smart Vehicles

Repairing of a smart vehicle could involve monitoring various components of the vehicle for any malfunctions or needed repairs. An IoT-enabled applications could be placed in the vehicle that collects data and sends real-time data to the service center so that proper maintenance can be provided. Additionally, a connected app could be designed to alert the user of any upcoming service requirements. Additionally, predictive analysis could be integrated to anticipate possible future problems and a course of action.Entails fitting the vehicle with sensors and other IoT devices to enable its monitoring and management from a remote location. By connecting the vehicle to the Internet, analysts can use data from the sensors to understand its performance and detect any issues. This data can then be used to inform repair decisions and actions, such as timing or location of repairs or sending out repair teams.[4]

PRINCIPAL
SANTHIGIRI COLLEGE OF COMPUTER SCIENCES
VAZHITHALA P. O., THODUPUZHA
KERALA, PIN : 685 583

Wireless Sensor Network for Healthcare

[1]Meghna B Nair, [2]K B Sudharsana, [3]Remya R

[1]Student, [2]Student, [3]Assistant Professor
Department of Computer Science,
Santhigiri College of Computer Sciences, Thodupuzha, India

Abstract: Now a days Wireless sensor network are considered as the key research areas in computer science and healthcare application industries. The extensive healthcare systems provide rich information and alerting mechanisms against odd conditions with continuous monitoring. It having significant benefits, the area has still major challenges which are investigated in this paper. We provide several state of the art examples together with the design considerations like inconspicuous, scalability, energy efficiency, security and also provide a comprehensive analysis of the benefits and challenges of these systems. It minimizes the need for caregivers and helps to treat the chronically ill and elder people it to survive an independent life, besides provides quality care for the babies and little children whose both parents are engaged in any works. Driven by the convergence between the need to collect data about people's physical, physiological, cerebral, cognitive, and behavioral processes in spaces ranging from particular to civic and the recent vacuity of the technologies that enable this data collection, wireless detector networks for healthcare have surfaced in the recent times.As the y technology advances in low- power networked systems and medical detectors, in recent times we've witnessed the emergence of wireless detector networks(WSN) in healthcare.

Index Terms: Wireless sensor network, Sensor nodes, WSN Network Topologies, Wireless Sensor Network for Health care.

I. INTRODUCTION

Wireless Sensor Network (WSN) is an infrastructure-less wireless network that is utilize in a large number of wireless sensors in an special type manner that is used to monitor the system which is, physical or environmental conditions. A Sensor node is a small and inexpensive device and it possesses the capacity to gather the sensor information from the environment, process the information and communicate with other nodes. WSN technologies are used to determine and analysis the health care condition of a person . An important component of ever-present healthcare is wireless sensor network (WSN). The WSNs has the ability to make the life more comfortable by improving the quality of health care . The use of wireless technology has increased day by day due to its convenience and low cost. A wireless sensor network (WSN) usually consists of a large number of sensor nodes in order to gather the information from the environment. Wireless sensor networks in healthcare are mostly used to determine the activities of daily living (ADL) and it provide data for long term studies.

The emergence of wireless sensor networks (WSNs) in healthcare applications is fueled by a growing array of wearable vital sign sensors and location tags that can continuously track healthcare personnel and patient status/location in real-time mode. Despite the increased range of potential application frameworks – from pre-hospital, in-hospital, ambulatory and home monitoring to longterm database collection for longitudinal trend analysis — the security gap between existing WSN designs and requirements for medical applications remain unaddressed.

Generally, WSN devices are very limited in terms of power, computation and communication. They are often deployed in accessible locations, thus increasing security vulnerabilities. Dynamic ad hoc topology, multicast transmission, location awareness, critical data prioritization, and coordination of heterogeneous sensors for healthcare applications exacerbate the security challenges. This paper presents an analysis of various WSN security systems from the demand perspective of healthcare applications, and considers the importance of security for the successful deployment of pervasive computing solutions in the healthcare industry.

II. SENSOR NODE wireless sensor network is a group of special type of sensor with a communication frameworks for monitoring and recording the conditions of patient at diverse locations.

A Wireless sensor network consists a set of connected by thousands of small sensor nodes. These sensor nodes obtain information on the environment such as temperature, pressure, humidity or pollutant, and send this information to a base station. The latter sends the information to a wired network or activates an alarm , depending on the type of data monitored .Commonly the sensor monitored parameters are temperature, humidity, pressure, wind direction and speed, illumination intensity, vibration intensity, sound intensity, power-line voltage, chemical concentrations, pollutant levels and vital body functions. sensor network that is capable of performing some processing, gathering sensory information and communicating with other connected nodes in the network and exchange information and data

Actually sensor node is a small device which has the ability to gather the information from the external environment. A sensor node, which is also known as a sensor pod or a mote, actually it is a component of a larger network of sensors. Each node has the responsibility to gather the information from the external environment and the data send to the processor. A sensor network contains more than one detection stations called sensor nodes, each of them are small, lightweight and portable. Every sensor node is provided with a transducer, microcomputer, transceiver and power source. The transducer generates electrical signals according to the physical effects which sensed by the sensor nodes. The microcomputer processes and stores the data and sensor output. The responsibility of the transceiver is to receives the commands from the central computer and transmits data to the computer. The power for each sensor node to detect the signals and to respond is derived from a battery. A Sensor is a device that responds to the

SANTHIGIRI COLLEGE OF COMPUTER SCIENCES THODUPUZHA KERALA 685 583 VAZHITHALA
PRINCIPAL
SANTHIGIRI COLLEGE OF COMPUTER SCIENCES
VAZHITHALA P. O., THODUPUZHA
KERALA, PIN-685 583

Robotics and Automation in Healthcare

[1]Anna Benchy, [2]Adithya Rajeev, [3]Leema George

[1]Student, [2]Student, [3]Assistant Professor
Department of Computer Sciences,
Santhigiri College of Computer Sciences, Vazhithila, India

Abstract: Robotics is an interdisciplinary branch of computer science and engineering which involves the design, construction, operation, and use of robots. Healthcare organizations globally and regionally has started to adopt robotic technologies by the late 80s to manage their operations in a variety of fields. The robotic systems can assist the healthcare system and defend public health in a number of ways especially when deep health crises are exacerbated by the extreme socioeconomic pain. Robots in the medical field had transformed how surgeries are performed, streamlining supply and delivery in pharmacy, rationalized disinfection, and enabled the providers to focus on engaging with and caring for patients.

Index Terms: automation, robots, surgery, microbots, bacteria, medicine, healthcare workers

I. INTRODUCTION

Robotic automation means the designing, constructing and using robots to carry out a task which would otherwise be done by a human worker. Robots are used as a versatile way to automate a physical task or process done by humans. Collaborative robots are designed in such a way that they carry out the assigned task in the same way a human would do it. Robotic process automation (RPA) is a software technology that makes it easy to build, deploy, and manage software robots that emulate human's actions interacting with digital systems and software. By performing business process functions at a high volume using ru-based software, this type of automation frees up human resources to focus on more difficult jobs. Agriculture, transportation, military and law enforcement, as well as consumer and domestic items, all employ robots today. However, the potential of robots to help with the medical care of people may be the biggest contribution that they are giving to humanity. In the 1980s, robotics began to take off, and the first medical robots assisted with surgery. The first surgical aid robots employed robotic arm technology. As the years go by, artificial intelligence (AI) has made data analytics and computer vision possible, which has transformed medical robots and increased their functionality in a wide range of healthcare settings. Robots are now utilised in clinical settings outside of the operating room to assist healthcare professionals, provide medication to hospital patients, and perform cleaning and disinfection tasks. The majority of national and international healthcare organisations are using robotic technologies to run a variety of operations. These professions include telemedicine, pharmacy, rehabilitation, and surgery. A high standard of patient care, effective clinical procedures, expedited pharmacy supply and delivery, rationalised disinfection, and a secure working environment for patients and healthcare professionals are all made possible by the use of robotics in the medical area.

II. HEALTHCARE ROBOTICS: EVOLUTION

Robots in medicine assist by freeing up medical staff from routine chores that divert their attention from more important duties and by reducing the risk and expense of medical treatments for patients. The 1980s saw the experimental usage of mechanical robots in surgical settings, but it wasn't until the 1990s that the technology was completely perfected. The U.S. National Aeronautics and Space Administration (NASA) looked at the idea of remote surgery, or telesurgery, in the 1970s since astronauts in orbit were a promising main target group. The main concept was that a surgical machine might be installed on a space station and operated by a surgeon on Earth. The United States Defence Advanced Research Projects Agency considered a similar scheme (DARPA). Researchers at DARPA tried to create a remote telesurgery equipment that would make it possible to operate on wartime casualties. In 1985, the first surgical robot, the PUMA 560, was utilised in a stereotaxic technique. Computed tomography was used to guide the robot while it inserted a needle for a brain biopsy, a process that had previously been susceptible to mistakes due to hand tremors. In 1988, transurethral prostate surgery, which needed several repetitive cutting motions, was performed using PROBOT, a device created by Imperial College London. Integrated Surgical Systems, Inc. (ISS) and IBM created ROBODOC, which was utilised to successfully prepare a femur cavity for hip replacement in human patients, in 1992. Compared to human surgeons, it completed the procedure more rapidly and accurately.

The age of laparoscopic surgery began in the 1980s and 1990s. Surgeons discovered that by using laparoscopes, they could operate on patients with smaller incisions and shorten their recovery and hospital stays. A minimally invasive surgical procedure was illustrated by the method. Surgical robots that could help with minimally invasive operations were being developed by some surgeons. The da Vinci Surgical System, created by Intuitive Surgical, Inc., as well as the AESOP and Zeus Robotic Surgical systems, all created by Computer Motion, Inc., had all undergone testing by the late 1990s. The Zeus system performed numerous innovative robotic surgeries in the 1990s, but in 2003 it was halted after Computer Motion was acquired by Intuitive Surgical. The da Vinci Surgical System consequently gained a leading position among robotic surgical systems deployed globally. The da Vinci was made up of a surgical console, tools that modelled human wrists, and a vision system. Technically speaking, it was a "slave" system because the surgeon operated from a distance using "master controllers" that directed the direct motions of the binocular camera and the wristimitating tools. The da Vinci system had the benefit of achieving all three robotic surgical objectives—remote console and surgeon, elimination of unnecessary movements, and minimally invasive access.

Although some of the health care robots of today make PUMA seem a little archaic in comparison, this milestone signaled the beginning of a new era in which robotic devices support physicians and surgeons during medical procedures. Robots are becoming more accurate, autonomous, and able to perform complex surgeries on their own because to advancements in sensor and motion

SANTHIGIRI COLLEGE OF COMPUTER SCIENCES * VAZHITHALA * THODUPUZHA KERALA 685 583

PRINCIPAL
SANTHIGIRI COLLEGE OF COMPUTER SCIENCES
VAZHITHALA P. O., THODUPUZHA
KERALA, PIN : 685 583

Big Data and Its Challenges in Security

[1]Anna Scaria, [2]Anumol Jose, [3]Dr.Regunath K

[1]Student, [2]Student, [3]Asst.Professor
[1,2,3]Department of Computer Science, Santhigiri College of Computer Science, Vazhithala, Thodupuzha, India

Abstract: Because of our ability to create and gather digital data at an amazing rate, the concept of "Big Data" has become a reality. Despite the importance of it, the concept of big data is still often disregarded and undervalued. This particular study adds to the body of knowledge by effectively addressing the opportunities and limitations of Big Data, drawing on 7 case scientific studies of service providers and clients originating from various locations. The processing, analysis, and management of massive data are ineffective when using the present conventional resources, machine learning algorithms, and methodologies. Different scalable machine learning techniques, applications, and strategies (such as open source Hadoop and Apache Spark platforms) are widespread. In this particular research, we've identified the most important issues, including those related to big data, and we've compared numerous approaches to dealing with the issue of handling massive amounts of data.

Index Terms: Big Data, Opportunities, Applications, Security, Need of Security.

I. INTRODUCTION

Big data are gradually becoming ubiquitous. By all accounts, everyone is accumulating, dissecting, and making money from it. Big data are working on it, whether we're talking about dissecting zillions of Google searches to anticipate influenza flare-ups, zillions of phone calls to look for signs of terrorist activity, or zillions of aircraft details to find the optimal time to purchase tickets. It claims to resolve practically any issue, such as wrongdoing, general wellbeing, the growth of language structure, and so on, by combining the impact of modern computers with the vast data of the advanced era .

To maintain an extraordinary level of data quality and accessibility for corporate insight and big data investigation applications is the goal of big data organisation. Big data management strategies are used by businesses, governments, and other organisations to manage rapidly growing data pools, which typically contain many terabytes or even petabytes of information saved in a variety of file formats. Viable big data organisation enables firms to place important information in amazing arrangements of semi-organized[1] and formless data from a variety of sources, such as call detail records, system logs, and web-based social networking sites. In the last few years, there has been a tidal surge of data, and the web is the primary source of that data. Big data is too big, moves too quickly, and doesn't suit the layouts of the database models we've seen. Organizations can enter any reality and gain vital knowledge that was previously unthinkable by using Big Data solutions. Much like the term "cloud" refers to shifting technologies, the phrase "big data" can be confusingly unformulated. Big data usage necessitates changing the information structure to one that is more flexible, appropriate, and open.

Big data promises more in-depth knowledge, and data scientists are incredibly involved in examining this data in order to maximise profits for firms with complete customer approval. One of its vast new wildernesses is big data analysis. Rising innovations like the Hadoop framework and Guide Lessen present innovative and exciting ways to process and transform big data—defined as complex, unstructured, or large amounts of data—into meaningful experiences, but they also necessitate IT to reorganise the foundation in order to support the ongoing demands of big data analysis and the[2] circulated handling requirements. Big data is a broad term used to describe data volumes that are big or difficult to understand because there aren't enough applications for data preparation. Examination, capture, data term, find, part, storage space, transport, attention, questioning, and information division are among the challenges. The phrase repeatedly only refers to the application of explanatory or impacted new sophisticated tactics to eliminate hugeness from data, and inconsistently toward a careful size of data collection. Big data precision may directly lead to more assured decision-making, and better decisions may result in more organised efficacy, decreased cost, and dense plausibility. Big data is data that can handle more information than conventional database frameworks can.

II. CHARACTERISTIC OF BIG DATA

The big data can be characterized by 7 V's. These are listed below:

1. Volume
2. Velocity
3. Variety
4. Veracity
5. Value
6. Variability
7. Visualization

PRINCIPAL
SANTHIGIRI COLLEGE OF COMPUTER SCIENCES
VAZHITHALA P. O., THODUPUZHA
KERALA, PIN : 685 583

Big Data Analytics in Heart Attack Prediction

[1]Anmary Sunny, [2]Anagha Saju, [3]Sigma Sathyan

[1] Student, [2] Student, [3] Assistant Professor
[1]Department of Computer Science,
[1]Santhigiri College of Computer Sciences, Vazhithala, Idukki

Abstract: In today's world, heart attack is very common. Therefore, it is a big challenge to diagnose the patients timely and correctly. The treatment of heart disease is quite expensive and not affordable for most of the patients. The main goal is to develop a system to predict heart attacks using Big Data techniques. This system is able to discover and extract hidden knowledge about heart diseases from a historical database of heart diseases. It can answer complex queries about heart disease diagnosis, helping doctors make intelligent clinical decisions, which traditional decision support systems cannot. By providing effective treatments, it also helps reduce treatment costs. Big Data analytics, known in the corporate world for its valuable use in controlling, contrasting and managing large amounts of data, can be applied with great success to the prediction, prevention, management and treatment of cardiovascular disease. Therefore, a medical diagnostic system such as the Heart Attack Prediction System would likely be extremely useful.

Index Terms: Mobile computing, Healthcare, Communication, Pregnancy. (Key words)

I. INTRODUCTION

Acute Myocardial infarction (AMI), commonly referred to as a heart attack, is among one of the deadliest of cardiovascular diseases. AMI happens as circulation or blood flow to heart muscle is interrupted, causing the heart muscle to damage or die (become necrotic) . The primary reason for most heart attacks is a blockage which causes blood flow to one of the coronary arteries, vital channels through which blood travels to the heart muscle, to become reduced or obstructed. When blood flow is obstructed or reduced, the heart muscle is rapidly deprived of red blood cells which carry the necessary oxygen essential for sustaining life and consciousness in the human body. It takes as few as six to eight minutes without oxygen to cause the heart muscle to arrest, leading to the individual's death. The cause of most heart attacks is plaque, a hard substance which builds up over time in the coronary arteries. Plaque, a substance made up of numerous cells and cholesterol (fat), draws platelets, which increase over time, causing a blockage large enough to diminish or block blood flow to heart muscle. Some individuals have a build-up of plaque in the arteries over many years and this is known as atherosclerosis. Examining the cause and ethology of atherosclerosis, it can be described as a chronic inflammation. And when examining AMI, it also could be described as acute inflammation. White blood cell production in the bone marrow is increased due to signaling via the sympathetic nervous system aier the AMI as well as in the spleen. His increase in white blood cell production migrate to the heart and vessel wall and can be recruited into other atherosclerotic plaques, causing more inflammation and likely subsequent ischemic events such as reinfarction or stroke.

There are generally two phases of wound healing when it comes to monocytes and macrophages. Initially there is an early inflammatory phase and aierwards, a reparative phase begins. However, both phases are necessary for proper wound healing; but if either of these phases is stalled or if the inflammation continues too long, resolution of the Big Data..

II. WHAT IS BIG DATA

Big Data refers to data sets that are too large or too complex to be processed by conventional data processing software. Data with many fields (rows) offer greater statistical power, while data with higher complexity (more attributes or columns) can lead to a higher false discovery rate. Challenges in Big Data analysis include data collection, data storage, data analysis, search, sharing, transmission, visualization, query, updating, information protection and data source. Big Data was originally associated with three key terms: volume, variety and velocity. The analysis of Big Data poses a sampling challenge, so only observation and sampling have been possible so far. A fourth concept, veracity, therefore relates to the quality or insight value of the data. Without sufficient investment in Big Data veracity expertise, the volume and variety of data can create costs and risks that exceed a company's ability to create and leverage value from Big Data [1].

Current use of the term "Big Data" usually refers to the use of predictive analytics, user behavior analytics or certain other advanced data analytics methods that add value from Big Data, and rarely to a specific size of data set. "There is little doubt that the data sets now available are indeed big, but that is not the most important feature of this new data ecosystem. By analyzing datasets, new relationships can be found to "identify economic trends, prevent disease, fight crime and so on". Scientists, business leaders, medical professionals, advertising executives and governments regularly encounter difficulties with big data sets in areas such as internet search, fintech, health analytics, geographic information systems, urban informatics and business informatics. Scientists encounter limitations in their e-science work in areas such as meteorology, genomics, connect omics, complex physics simulations, biology and environmental research.

III. BIG DATA ANALYTICS IN HEALTH CARE

Healthcare is one of the largest and most complex industries, with patients constantly demanding better care management.. There are numerous new data sets every day and it is becoming increasingly difficult to effectively capture and analyse all the data. Electronic health records (EHRs) and all digital data relevant to healthcare are being amassed in vast quantities, making it necessary to use [2] technology and its tools to take advantage of the data available. This is where Big Data comes in.

Big Data refers to the vast amounts of information created by the digitisation of everything, which is consolidated and analysed using specialised technologies. The data comes from numerous sources, including electronic health records, medical imaging,

PRINCIPAL
SANTHIGIRI COLLEGE OF COMPUTER SCIENCES
VAZHITHALA P. O., THODUPUZHA
KERALA, PIN : 685 583

Monitoring a Pregnancy at Home

[1]Erin Roy, [2]Nandana B Nair, [3]Dalbina Dalan

[1] Student, [2] Student, [3] Assistant Professor
[1]Department of Computer Science,
[1]Santhigiri College of Computer Sciences, Vazhithala, Idukki

Abstract: It has become obvious in recent years that mobile computing was developed to increase both storage capacity and processing performance. One of the many data ways that can be applied to mobile computing is the integration of healthcare applications and services. This article suggests a framework for mobile computing-based prenatal healthcare. Pregnancy typically lasts nine months. A pregnancy's three-month intervals are referred to as trimesters. The fetus grows and develops throughout each trimester. Prenatal testing and routine medical exams are crucial. This strategy allows for the daily fetal checkups through mobile computing, integrating all necessary services and removing barriers. You can only access and send data thanks to mobile computing technology. You can only access and transmit data from remote areas without physically being there thanks to mobile computing technologies.

A wide communication coverage diameter is made possible by mobile computer technology. It is among the quickest and most dependable subfields of computing technology It is one of the fastest and most reliable sectors of the computing technology field.

Index Terms: Mobile computing, Healthcare, Communication, Pregnancy. (Key words)

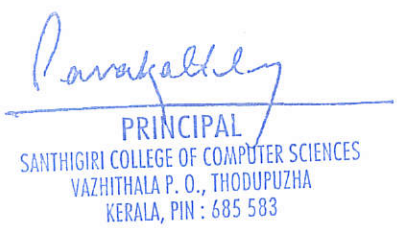
I. INTRODUCTION

Without being connected to a fixed physical link, mobile computing enables the transmission of data, voice, and video via a computer or any other wirelessly capable device. With this technique, data is transmitted wirelessly through mobile phones, computers, and other wireless devices. You can only access and transmit data from remote areas without physically being there. A wide communication coverage diameter is made possible by mobile computer technology. It is among the quickest and most dependable subfields of computing technology. In a mobile computing system, a computer is transported to the field together with all essential equipment, such as data and software. It is a technology that enables one to use a computing device even when they are on the go and moving around. One of the key features of the system is its mobility.

Scientific information that cannot be retrieved by other ways is being gathered via mobile phones in far-flung and secluded locations. The scientists are starting to employ mobile devices and web-based programs to carefully study fascinating scientific elements of their surroundings, ranging from The medical sector has never been among the leaders in information technology and computing whether it comes to patient care or clinical trials. In both Europe and the US, this is only partially true. The same is true for mobile computing. The IT industry's technological advancements have been slow to reach the medical sector. Contrary to widespread medical advancements, which in many sectors IT usage is not prioritized since the world is developing quickly. Evidently, the industries that have benefited financially from embracing the internet and mobile computing are the ones that have been establishing industry standards. Given the recent explosion in smartphone technology and the widespread adoption of mobile and wireless networks, it is clear that wireless infrastructure can serve a wide range of existing and future healthcare applications. Consider a doctor who has just treated a patient impatiently as an illustration. At the patient's bedside, the clinician could write a description of the service in a paper record. As an alternative, the physician can just enter some service parameters into a mobile device. Wireless networks are used to automatically transmit the entered data to the billing systems. Another intriguing use would be to write a prescription on a mobile device that sends the order to the right pharmacist via the internet.

Fetal heart rate monitoring measures the heart rate and rhythm of your baby (fetus). This lets your healthcare provider see how your baby is doing [2]. Fetal monitoring is a crucial aspect of a medical investigation of health concern during pregnancy.

A specific hospital is in charge of keeping track of pregnant women to safeguard the mother's and fetus health throughout the pregnancy period. The introduction of telecommunications technologies into the healthcare setting has improved patient access to healthcare practitioners, processing speed, and service quality. In addition to potentially boosting patient care in both urban and rural settings, present and upcoming wireless technologies help relieve stress from healthcare professionals, enhance their retention, productivity, and quality of life, and lower the overall cost of healthcare services. We develop a novel wearable fetal electrocardiogram (fECG) monitoring system consisting of an abdominal patch that communicates with a smart device. The system has two main components: the fetal patch and the monitoring app [3].



Chatbots in Healthcare

[1]Nandhana Prasanth, [2]Nousia Nazar, [3]Deepa M

[1]Student, [2]Student, [3]Assistant professor
[1]Department of computer science,
[1]Santhigiri college of computer sciences, Thodupuzha, India

Abstract: This A healthy lifestyle depends heavily on proper healthcare. Nevertheless, it might be exceedingly challenging to schedule a doctor's appointment for every health issue. Before contacting a doctor, the goal is to develop a medical chatbot utilizing artificial intelligence that can identify the illness and provide basic information about it.Using a medical chatbot will lower healthcare expenses and increase access to medical information. The chat-bots are computer programs that communicate with users by using natural language. In order to recognize the sentence keywords, make a query choice, and provide an answer, the chat-bot stores the information in a database. This article offers a concise overview of the applications for healthcare chat-bots, outlining their advantages, drawbacks, and patient dangers.

Key words: Chatbots, Artificial intelligence, Conversational agents, Natural language.

I. INTRODUCTION

Chatbots can replace or support human support agents to enhance customer service, engagement, and support using artificial intelligence (AI) and other automation technologies that can communicate via chat with end users.

The use of chatbots, which are computer programs that mimic and analyze spoken and written human communication, allows people to interact with electronic gadgets as though they were speaking with a live agent. To enable higher levels of personalization, chatbots can range from straightforward programmes that react to a single instance to sophisticated virtual assistants that can learn from and develop as they gather and process data.

II. CHATBOTS

Chatbots, also known as chatterbots, are a type of artificial intelligence (AI) that is utilized in messaging apps. This technology adds convenience for customers because they are automated programmes that interact with clients like humans and cost next to nothing to use. Chatbots often operate in one of two ways: by machine learning or by following predefined guidelines. Chatbots deployed by businesses via Facebook Messenger, as well as virtual assistants such as Amazon's Alexa, are prime examples

III.WORKING OF CHATBOTS

We must first take into account the three primary mechanics powering the technology in order to comprehend how a chatbot functions[1]. Rules-based procedures, AI-driven judgement, and live agent involvement are the three mechanisms that demand your attention. A chatbot's functioning will vary slightly depending on its mechanism.

IV.BENEFITS

1. Quick information

Apps using chatbots for healthcare are excellent for disseminating information. However, they can deliver knowledge swiftly compared to people. Medical chatbots can be a useful resource for information when it comes to the healthcare sector. What happens, for instance, if a patient experiences a panic attack and is unable to travel to a nearby medical facility? They can merely supply precise information using the chatbot for healthcare-related needs. They frequently also offer treatments for common diseases or ails.

2. Always accessible

Because chatbots never sleep, they are accessible to everyone around the clock. Additionally, they don't take breaks for lunch or dinner and don't leave, so they are able to serve continually[2]. Furthermore, as the number of enquiries rises, you don't need to make different arrangements. Simply increase the processing power, and you'll be set to go.

3. Higher personalization

Consider the case where a human representative receives 150 questions per day and is unable to remember them all. A medical chatbot, on the other hand, can easily manage more than those questions without growing weary. Additionally, personalization is valued by all audiences, and chatbots make it simple to deliver it.

4. Exactness and precision

Precision and accuracy of information are the most important factors to consider when disseminating it in the healthcare sector. Never accept the chance of disseminating false or inaccurate information that can later snowball unintentionally into an improbable situation.

5. Remote Entry

You can speak to a healthcare representative in person, over the phone, or online through a portal. The individual's unavailability could go quite bad in any of these instances. However, these situations virtually ever occur while using medical chatbots. A chatbot can be accessed remotely because the healthcare business and chatbots work hand in hand. Because chatbots can provide support from a distance and resolve a variety of problems, the future of this technology in the healthcare sector seems promising.

V. LIMITATIONS

1. No real human interaction

Healthcare chatbots are an excellent method to convey information, but they must also provide genuine human connection. This can be a disadvantage if you are in an emergency scenario or want assistance understanding the instructions provided by your

SANTHIGIRI COLLEGE OF COMPUTER SCIENCES VAZHITHALA THODUPUZHA KERALA 685 583

PRINCIPAL
SANTHIGIRI COLLEGE OF COMPUTER SCIENCES
VAZHITHALA P. O., THODUPUZHA
KERALA, PIN : 685 583

A Study about AI and ML: Exploring the Advancement of Generative AI Models

[1]Nicholes Charles, [2]Sidharth Venugopal, [3]Resmi K R

[1,2] Student, [3]Assistant Professor
[1,2,3]Department of Computer Science,
[1,2]Santhigiri College, Vazhithala, India
[3]CHRIST (Deemed to be University), Bangalore, India

Abstract: This paper provides an overview about artificial intelligence, machine learning and also about generative AI models. The advent of artificial intelligence is a big leap for us. AI is being used from tech giants to small and medium sized enterprises for the growth of their businesses by making best utilization of the data they have. And a lot of AI tools are being released to the market where many of them are free of cost. AI involves the development of intelligent programs that can perform tasks that typically need human intelligence. AI has a history of many years; it's history can be traced back to the 1950s when john McCarthy a famous computer scientist coined the term "Artificial intelligence". Since then, it has witnessed several cycles of growth and declines. Generative AI models like ChatGPT has been huge success since its debut. It was released as a prototype and within short span of time it was invested by Microsoft. This paper also discusses briefly about machine learning. Machine learning comes as the subset of AI, which trains the machines to make decisions or predict based on the data. In conclusion the purpose of this paper is to provide an overview about the history of AI and also about Generative AI.

Index Terms: Machine learning, Artificial Intelligence, Generative AI, Algorithm, Natural Language Processing.

I. INTRODUCTION

Artificial intelligence is a powerful technology that can be used to increase the quality of our life and this same technology can backfire when not used properly. The world is becoming better and better place with self-driving cars and image recognition. All these technical advancements could happen only because of the artificial intelligence. In the year 1997 IBM's dark blue computer could beat human chess champion. In 2016 Google's AlphaG beat the best human go player. AI can be classified into three analytical, human-inspired and humanized ai depending upon the AI it exhibits. Scientists and engineers predict that within few years we will acquire artificial general intelligence. Artificial general intelligence means systems can behave like humans in all aspects like cognitive, emotional [1].

II. HISTORY OF ARTIFICIAL INTELLIGENCE

In the year 1942, a famous science fiction writer Issac Asimov wrote a short story called Runaround. The plot of this novel is about a robot developed by two engineers that evolve around three laws (1) A robot should not injure or harm any human beings in any way (2) A robot should obey the rules of a human being except it breaks the first law (3) A robot should protect itself as long as it doesn't conflict the first two laws. Many scientists and engineers were fascinated with this novel. Around this time an english mathematician developed a machine called "The Bombe" for the British government. This machine was created to decipher the enigma code used by German army in second world war. The task done by "The Bombe" was impossible for even the best mathematicians at that time. This milestone invention made Turing wondered about possibilities of such machines. In 1950 he published a paper "Computing Machinery and Intelligence". This paper described about how to create intelligent machines and how to test their intelligence. The word artificial intelligence was originally coined in the year 1956 when Marvin Minsky, John McCarthy organised 8-week long Dartmouth summer research project on artificial intelligence (DSRPAI) at Dartmouth college. It marked the beginning of AI growth. The participants of this program include computer scientists Nathaniel Rochester who designed IBM 701 which is the first commercial computer. Claude Shannon who founded information theory was also a participant. After the Dartmouth conference there was a significant development in artificial intelligence. One of the developments in this field at that time was ELIZA computer program that was developed between 1964 and 1966. It was a natural language processing tool. Another success story was the development of general problem solver program that could solve problems like tower of Hanoi. All these successes attracted huge investments to ai projects development. In 1973 the US congress strongly opposed the huge funding into artificial intelligence. In the same year, the British mathematician James Light hill published a report by British science research council and claimed machines can never be intelligent like human beings. As a response to it British government ended funding to ai research except three prestigious universities. And American government also reduced investments for AI research [2][3].

III. MACHINE LEARNING

Machine learning is a subset of AI. Machine learning is a data mining technology that makes a computer program to predict the outcome accurately with the accumulated data, it also helps to improve from past results.
There are mainly four types of machine learning methods

- Supervised machine learning
- Unsupervised machine learning
- Semi supervised machine learning
- Reinforcement learning

PRINCIPAL
SANTHIGIRI COLLEGE OF COMPUTER SCIENCES
VAZHITHALA P. O., THODUPUZHA
KERALA, PIN : 685 583

A Review on Securing Database using Steganography

[1]Sandra Sunny, [2]Alby Sunny, [3]Amitha Joseph

[1]Student, [2]Student, [3]AssistProfessor
[1]Department of Computer Sciences,
[1]Santhigiri College of Computer sciences, Vazhithala, India

Abstract: Steganography is the practice of hiding a secret message within another, seemingly innocuous message. The purpose of this technique is to conceal the existence of the hidden message, making it difficult for an outsider to detect. This method has been used throughout history for various purposes, including sending confidential information during wartime, delivering sensitive messages between spies, and communicating in secret during politically turbulent times. In the digital age, steganography has taken on new forms, such as hiding data within image, audio, and video files. Database steganography refers to the practice of hiding secret data within a database. It involves embedding confidential information within the structure or content of a database, making it difficult for unauthorized users to detect the hidden information. The paper presents a review on mainly two steganography technique for securing database. One uses steganography technique to hide a database record inside another database records and the other technique allows a user to create basic tables and records which are hidden from others inside an image.

Index Terms: Data Protection, Database, StegoDb, Steganography, cryptography, LSB, Json

I. INTRODUCTION

Confidentiality of data is a crucial issue in today's diverse environments involving computers, tablets and smart phones. In mobile environment for example there will be need to store financial data, personal information and passwords which should not reach hackers or other miscreants. Steganography differs from cryptography, which is the practice of encoding a message to make it unreadable to anyone except those who have the decryption key. While cryptography provides security through obscurity, steganography provides security through concealment, hiding the very existence of the message. This method has been used throughout history for various purposes, including sending confidential information during wartime, delivering sensitive messages between spies, and communicating in secret during politically turbulent times. In the digital age, steganography has taken on new forms, such as hiding data within image, audio, and video files. The use of advanced algorithms and encryption methods has made it possible to embed large amounts of data in seemingly innocuous digital files. With the advent of digital technology, it has become easier to embed hidden data within digital files, making it a popular tool for both malicious and benign purposes.

Most of the current Steganography techniques tend to affect the quality of the image as well if there is more data inserted into the image. In this paper we can see that this issue is avoided by using the best possible steganography algorithms at the same time finding the maximum amount of data that can be inserted into an image before starting the insert process. The problem with traditional steganography technique is that the application developer always faces the overhead of creating specialized procedures and programming logic for handling the encryption or data storing logic. Hence to avoid this and to make the life of an application developer much easier we are proposing a new steganography database architecture which is very easy to setup and provides the application developer easy to use methods which can be called easily while developing applications. The aim of this paper is to reviewing the two methods, a database inside another database and the other securing it under an image to secure a database.

II. CONCEPTS AND TECHNOLOGIES

A.Steganography

Steganography is the practice of concealing information within seemingly harmless cover media. The word "Steganography" comes from the Greek words "steganos" meaning "covered or hidden," and "graphia" meaning "writing." The goal of steganography is to hide the existence of the message itself. There are several types of steganography, some of them are Image Steganography, Audio Steganography, Video Steganography, Text Steganography and Network Steganography. There are various algorithms used in steganography, including LSB (Least Significant Bit) Algorithm, Discrete Cosine Transform (DCT) Algorithm, Spread Spectrum Algorithm etc. Since we are using Digital image steganography, we make use of LSB based steganography.

The Least Significant Bit (LSB) based steganography is a popular method of data hiding within digital media, particularly images. In this method, the least significant bits of the cover image are replaced with bits from the secret message. The LSB technique works by changing the value of the least significant bit of the cover image's pixels, which has a minimal impact on the visual quality of the image. The change is typically so small that it is not noticeable to the human eye. The LSB method can be used to hide any type of binary data, including text, images, and audio files. The advantage of the LSB method is that it is simple and straightforward to implement, and it does not require any special compression or encryption algorithms.

B. JSON

JSON (JavaScript Object Notation) is a lightweight data-interchange format that is used for transmitting data between a server and a client. It's a human-readable and easy to understand format, allowing values to be written as key-value pairs. JSON can be used in database steganography, by encoding secret messages within JSON data structures. This can be done by modifying the values of the properties in a JSON object in a way that doesn't alter its original meaning or functionality, but instead embeds additional information. These are the properties make JSON an ideal as a data-interchange language. Mainly JSON is built on two structures:

- A collection of name or value pairs. In other languages, it is realized as record, object, structure, dictionary, keyed list, hash tableor associative array.

PRINCIPAL
SANTHIGIRI COLLEGE OF COMPUTER SCIENCES
VAZHITHALA P. O., THODUPUZHA
KERALA, PIN : 685 583

Robotics in Space Exploration

[1]George Benny, [2]Leema George

[1]Student, [2]Assistant Professor
[1,2]Department of computer science, Department of computer science Santhigiri College of Computer Sciences
Vazhithala,Thodupuzha, Santhigiri College of Computer Sciences
Vazhithala,Thodupuzha

Abstract: This report provide a way for shows the current state of space exploration using space robots and its application. The report begins with the expressing the history of space robot and about the new rovers and landers used now for the space exploration using the modern technology. It then covers about the interrelationship between the robot and the humans and practical precaution taken for robot safety and factors that strongly support space robots is better than the traditional method and future scope for the space robotics and classes or category in which the space robots are classified according to their use in the space and it also discuss about the two major type of space robots types such as the remote manipulator system and remotely operated vehicles and it also contains some factors that are effecting the rocket while at the deploying time due to the earth magnetic and gravitational field and contact between other external objects and it also maps some frequently used rovers to the space

Keyword: Spacecraft, Rovers, Landers, remote manipulator system, remotely operated vehicles

I. INTRODUCTION

The space robotic is field growing significantly developed due to the advancement in technology and in the older period we just experienced only 5 percent of this vast universe after some years due to the advancement in technology we can explore more than 50 percent of this vast universe easily with the help of technology many of the space agency have continuously deploying many rovers into different planets and helps to get details about it along with the government agencies many private centers are also deploying rovers to the other planets in search of microbial life and checking the resources available there. Many of the organization are planning for the human transport toward the others planets. Huge amount of information is collected from the mars and moons and planets mission are in the developing, with the use of non-automotive robots that helps to reduce the cost of the space robot and thereby increases the production of space robots and help even smaller organization to deploy space robots and collect information form this vast universe. The rovers used in the early stage was completely changed when considered to the newer system in size, speed, accuracy and durability too. According to the research says that after 2050 we are able to explore 75 percent of the vast universe and get more information about it and human transport should be made possible easily.

II. HISTORY OF SPACE ROBOTICS

The introduction of space robotics has changed the concept of space exploration it was the Russians who sent the first working space robots into the space ,its name was sputnik in Russian the word sputnik means fellow traveler, it was the first human made object into the space it was a successful mission it carries two dogs called "strella and bellka" and an electronic program called "kudrayavaka" which is an program which were used to collect health information and other materials changes between the two dogs. The major base for the space exploration was the construction of international space station it helps many rovers systems to seek support from that and later the candaian space agency then created the "candaarm" system which were not actually a space rover it was an robot assistant which contains two big arms which were able rotate in 360 degree mode and it can do many works easily and it can easily change its parts easily in space without any helps ,if any of its parts get wear it can be easily displaced in the space. The us space agency also proposed many systems at that time , the first one was the pioneer mission Pioneer it was the first mission it were used for detecting the ionizing radiation, cosmic rays, magnetic fields, and micrometeorites in of the Earth and in lunar orbit.by this mission it can easily identify the earth and lunar orbit nature and according to data we can deploy the rockets to the space easily without causing much problems while deploying this data collected from this mission were used by many other agencies for their missions so it was the backbone for the space rocket emission . The Indian space agency first deployed the Aryabhata in 1975 with the help of the russian launch and finally in 1980 , "Rohini " is placed in the orbit with an Indian made launch vehicles. India was first developing country to deploy a rocket toward the orbit at that time it was all done by the developed nation. At that time due to the limited technology used the durability of the space rockets was a problem it were difficult for the emission and data collected by the systems were not fully accurate. But all this new technology are all developed from this base.at that there was only government agencies to carry out space research private agencies were not available in that time so, rapid growth in space robotics was not applicable at that time and financial issues were also prolonged at that time.

III. FACTORS AFFECTING SPACE ROBOT DEPLOYMENT

There some factors which effect the space robots while at the time of emission if they are not properly noticed that when led to the failure to all emission. They are

A. Dynamics of Space robots in Orbit

The robot dynamic which mainly deals with forces acting in the robot when it is deployed. It is a freefall environment which consists of earth's gravitational force and non-gravitational forces such as magnetic , solar pressure variation and the atmospheric drag it can be easily neglected because the non-gravitational force are small. The free fall environment mainly consists of two modes the freeflying mode in which the thrusters are active in which they provide a juice to overtake the earth gravitational force easily and the center of mass can be easily translated ,no momentum control devices are required, but in the case of free-floating

PRINCIPAL
SANTHIGIRI COLLEGE OF COMPUTER SCIENCES
VAZHITHALA P. O., THODUPUZHA
KERALA, PIN - 685 583

Virtual Driver

[1]Jain Raju, [2]Likeson Saviyo, [3]Rajesh A V

[1]student,[2]student, [3]Assist.Professor of Dept. Computer Science
[1]Department Of Computer Science
[1]Santhigiri College of Computer Science, Vazhithala, Thodupuzha, India

Abstract: Technology that enables an individual to drive a vehicle from a remote location already exists. Virtual driving is when a teleoperator interferes directly with the autonomous vehicle including steering, accelerating, and braking. Virtual controlling enables important operational data to be obtained, thus setting the groundwork for gradually increasing virtual driving performance in the future. Moreover, human assistance through virtual driving can offer more flexibility and intelligence than a single AI. However, the real-time transmission of data and videos is particularly crucial for virtually driven vehicles. The latency between the vehicle and the controller depends on the video streaming communication methods and transport protocols. Furthermore, the control and driving performance depends on the vehicle speed likewise

I. Introduction

In this paper we discuss about virtual driving, basic requirements of virtual driver, Applications of virtual driver, advantages of virtual driver. Virtual driver means a human driver who is not located in a position to manually control the vehicle's braking, accelerating, steering or gear selection, but operates the vehicle.

II. Basic requirements

- [1]Non interruptible network connection: - for implementing the virtual driver we need an uninterruptible connection, if the connection gets interrupted then the life of the passengers and people at the road will be at danger.
- An onboard unit in the car and a control center from which a driver controls the car: - We need an onboard unit in the car to take control of the board incase the connection get lost. We need to setup the control center from which the driver can control the vehicle.
- Must have an assistance of the passenger: - as the vehicle being driven from a remote location the passenger inside the vehicle has to be ready to take control of the vehicle in case any unexpected scenario occurs.
- If the connection gets lost, then the vehicle needs to safely park it on the side: - as we know, to implement the virtual driver we need an uninterrupted connection. If in case the connection gets lost and the Passenger inside vehicle have no knowledge about the controls of the vehicle then the vehicle needs to park itself at the nearest safe position.
- Auto pilot up to the closest parking space available: -in the case of the a lost connection, the vehicle will needs to park at the nearest safe position available. For the vehicle to park at the nearest safe position available then the vehicle needs to be on auto-pilot mode, which is used to park the vehicles in parking lots.
- ADAS system: -it is a hardware and software product which will assist the driver in every situation. The ADAS system can take control of the vehicle in the case of emergency if the driver doesn't respond to it.

III. What is ADAS?

- Advanced Driver Assistance Systems
- [2]The title-role of ADAS is to prevent deaths and injuries: - as the ADAS being a driver assistance system it needs to prevent deaths and injuries that can be occurred by lack of driver response and concentration on the road.
- It incorporates the latest interface standards and run multiple vision-based algorithms: - as the ADAS being a life saver it needs to be fully equipped with the latest technologies and it should meet the latest standards.
- It uses cameras and sensors to detect driver's errors and respond accordingly: - the ADAS system is an electronic system, it uses the cameras and sensors to implement the driver assistance as it is the way in which the system can take actions at run-time and produce the move for any situation which can occur in the journey.

IV. Applications of ADAS

- Pedestrian detection and collision avoidance: -the ADAS system will scan the road real-time and if a pedestrian steps into the road the vehicle will automatically applies brake and avoid collision.
- Lane departure warning and correction: -the ADAS system will scan the road and if the vehicle cross the lane, then the system will correct it and inform the driver.
- Traffic sign recognition: - the ADAS system will scan the traffic signs along the path and if the driver violates any then the system can take actions and inform driver about it.
- Automatic emergency braking: - if in an emergency situation if the driver forgot to apply the brakes, then the system will automatically brake and avoid the collision.
- Blind spot detection: - there are many blind spots in mirrors, if any vehicles or objects are in that place the driver will not see it and it can cause accidents. In this situation the system will warn the driver about it and hence the accident can be avoided.

SANTHIGIRI COLLEGE OF COMPUTER SCIENCES THODUPUZHA KERALA 685 583 VAZHITHALA

PRINCIPAL
SANTHIGIRI COLLEGE OF COMPUTER SCIENCES
VAZHITHALA P. O., THODUPUZHA
KERALA, PIN: 685 583

Application Of Data Mining in Agriculture

[1]Vishnudathan K H, [2]Sachin T R, [3]Rajesh A V

[1]Student, [2]Student, [3]Assistant Proffessor
[1]Computer Science, Thodupuzha, India

Abstract: Data mining was occupied by different kind of fields such as medicine, shops, education. Agriculture field is also a field to emerge data mining.In agriculture field where the famers have to make innumerable decisions every day and elaboration involves the various factors influencing them. An indispensable issue for agriculture planning intention is the exact yield estimation for numerous crops involved in the planning. The data mining technique can be uses for taking decisions related to some issues in agriculture field. Data mining permit farmers to check potentially interesting and unknown patterns in large volume of datasets. This paper discus about what are the applications of data mining and usages of those application in agriculture field to defeat the existing barriers and to pick out the further developments to enhance the performance in agriculture field.

I.INTRODUCTION

Data mining is the process of extracting beneficial and important of information from broad sets of data. Prediction of yield is very important problem in agriculture. Any farmer is concerned in how much yield is about to expect. Spatial Data Mining is the discovery of engaging patterns from large geospatial database . Now a days some farmers are using the various approach, tools and technique of farming for good production. Data mining can be used for predict the future values of agriculture process.

Wherever Times is specified, Times Roman or Times New Roman may be used. If neither is available on your word processor, please use the font closest in appearance to Times. Avoid using bit-mapped fonts. True Type 1 or Open Type fonts are required. Please embed all fonts, in particular symbol fonts, as well, for math, etc.

II.EASE OF USE

Data mining can be a useful tool for improving agricultural practices by providing insights into various aspects of farming, such as crop yields, soil health, weather patterns, and pest infestations. However, the ease of use of data mining in agriculture depends on several factors.One important factor is the availability and quality of data. Agricultural data can come from various sources, including weather stations, sensors, satellites, and farm management systems. The data must be accurate, reliable, and accessible to ensure that data mining techniques can be applied effectively.

III. DATA MINING TECHNIQUES

Data mining techniques was divided into two groups, they are classification and clustering techniques Another classification technique, K- Nearest Neighbour don't have any learning phase, because it was use the training set everytime a classification must be accomplish. Data mining techniques are divided into two groups, they are classification and clustering techniques [8]. Classification technique was designed for classifying the unknown samples using informations provided by a set of classified sample.

IV. APPLICATIONS

There do several applications of Data Mining techniques in agriculture field. The K Nearest Neighbour (KNN) is appy for simulating day to day precipitations and more weather variables and various possible changes of the weather scenarios are analyzed using SVMs .Data mining techniques are apply to study the problems of sound recognition . For example, Fagerlund S uses SVMs for classify the sounds of birds and more different sounds. There are unit two dominant kinds of predictions: one will either try and forecast some unavailable information values or uncomplete trends, or predict a kind of label for some few information. The latter was tied to classifications. Once a classification model is constructed advised a coaching set, the kind of label was associate object may be forecast the supported attribute value of the article and therefore the attribute value of the categories . forecasting is but additional typically remark the predict of missing arithmetical values, increase or decrease trend in time joined information. The important plan is to utilize an outsized range of record values to think about likely future values.

I.DATA MINING METHODS

Data mining describe, as stated, evoke of invisible information about evaluate from large files. This is a new technique with great potentiality to assist companies minding on the most essential information in their broad data. Tools for data mining forecast future trends and behaviors, enable the business to make running decisions, based on knowledge.

V.CLASSIFICATION

Classification is the technique of finding a model that define and differentiate information categories or ideas for the aim of having the abilities to use the model to forecast category.

VI.APPLICATION OF DATA MINING IN AGRICULTURE

Modern age has bring significant changes and information technologie in various areas of human activitie have found wide application this also in agriculture. Development and introduction of new information technologies are enable to global networking, provide agriculture the label of 'IT agriculture'. Information technology progressively provide encouragement in systematic approach to solve the agricultural problems. Access to the right information enable the preparation of accurate reports, for instance about using protective equipment, count of work hours of the machine on a specific crop, or the number of hired season work effort. simultaneously it is easy to keep track of work and verify interchange of information. Agriculture is bountiful with distinct information which conditions the necessity to use the data mining.

SANTHIGIRI COLLEGE OF COMPUTER SCIENCES THODUPUZHA KERALA 685 583 VAZHITHALA

PRINCIPAL
SANTHIGIRI COLLEGE OF COMPUTER SCIENCES
VAZHITHALA P. O., THODUPUZHA
KERALA PIN : 685 583

Comparitive Study using different classifiers in Machine Learning in Ishaemic Heart Disease

[1]Nikhitha V, [2]Pournami Raju, [3]Dr. Neetha Thomas

[1,2]Student, [3]Assist. Professer Of Dept. Computer Science
[1]Department Of Computer Science,
[1]Santhigiri College of Computer Science, Vazhithala, Thodupuzha, Kerala, India

ABSTRACT: The paper gives a historical, current- state-of-the-art, and outlook on some potential future trends in this area of applied artificial intelligence sector of the development of intelligent data analysis in medicine. The study instead highlights several some areas and directions that, in Our opinion, appear to the crucial for using machine learning in medical diagnostics but does not aim to present and exhaustive review. We place particular emphasis on the naive Bayesian classifier, neural networks, and decision trees in historical review. We compare a few cutting-edge systems from each discipline of machine learning as they are used to perform various diagnostic tasks in medicine. The first discusses a freshly created technique that appears promise for intelligent data analysis in medicine for dealing with the reliability of classifier decisions. The second discusses a method for applying machine learning to confirm certain mysterious phenomena from alternative medicine, which is not (now) acknowledged by the orthodox medical establishment but may one day be crucial in general medical diagnosis and treatment.

Keywords: Machine Learning; naïve Bayesian classifier; Neural Networks; Symbolic Learning

I. Introduction

Making computers smarter is the goal of the computer science subfield known as artificial intelligence. From the beginning, machine learning algorithms were created and used to the analysis of medical datasets. In theory, descriptions of previously solved instances can be used to automatically infer knowledge about medical diagnostics. The doctor can then utilise the resulting classifier to help with fresh patient diagnoses. None of the parts are meant to serve as full summaries; rather, they are meant to describe specific subfields and directions that, in my opinion, are crucial for medical diagnosis. Comparitive study using different classifiers in machine learning for Ishaemic heart disease is a method of comparing the performance of different machine learning algorithms on a given dataset. This is done by training each algorithm on the same dataset and then comparing the accuracy of the results. The comparison can be done in terms of accuracy, precision, recall, F1 score, and other metrics. This comparison can help to identify the best algorithm for a given problem and can also help to identify potential areas of improvement. It is a condition in which the heart muscle is deprived of oxygen due to a narrowing of the coronary arteries. The diagnosis of IHD is usually based on clinical symptoms, electrocardiogram (ECG) findings, and imaging studies. However, the diagnosis of IHD is often difficult and time-consuming. There are some benefits and limitations. The benefits are ability to analyse data and improve diagnosis, carry out administrative and routine and health monitoring and digital consultations; and the limitations are training complications and change can be difficult. In this study, we compare the performance of different machine learning class. ML covers the diagnosis of Cancer, Diabetes, Chronic disease, Heart disease, Stroke and cerebrovascular disease, Hypertension, Skin disease, Alzheimer's, and Liver disease. In this paper, we are focusing on diagnosis of **" Ishaemic heart disease"**.

II. Literature Review

The 1950s and 1960s, the first electronic computers were used to develop machine learning. The classical work in which three important branches of machine learning evolved is: Hunt et al description 's of symbolic learning, Nilsson's statistical techniques, Rosenblatt's neural networks. Advanced techniques including artificial neural networks, decision trees, inductive learning, statistical or pattern recognition, and logic programming.

1. The naive Bayesian classifier

It is a type of supervised learning algorithm that uses Bayes' theorem to make predictions. It is based on the assumption that all features are independent of each other and that the probability of a certain class is independent of the values of the features. The naive Bayesian classifier makes predictions based on the probability of a certain class given the values of the features. It is a simple yet powerful algorithm that can be used for both classification and regression tasks.

In many medical and non-medical diagnostic situations, the naive Bayesian classifier has been utilised to outperform the most complex and advanced algorithms. For instance, it outperformed all other algorithms when compared to six algorithms on five out of eight medical diagnostic difficulties. The categorization accuracy of one study's sophisticated inductive logic programming techniques ranged from 12 to 29%. It is a benchmark algorithm that must be used before any other cutting-edge techniques in any medical field. With a final classification accuracy of 65.5%, Spiegelhalter et al. Created an expert system based on Bayesian belief networks for diagnosing newborn babies' heart conditions.

In the early 1990s, Good created the naive Bayesian classifier, commonly known as the simple Bayes, and its variations. It has been used successfully in medical diagnosis as well as other applications, leading to the development of numerous versions and extensions. Seminaive Bayesian classifiers were created by Cestnik and Kononenko, and explicit methods for identifying connections between attributes were created by Langley and Pazzani. With the right visualisation, the classifier's transparency can be increased even further.

SANTHIGIRI COLLEGE OF COMPUTER SCIENCES THODUPUZHA KERALA 685 563 VAZHITHALA

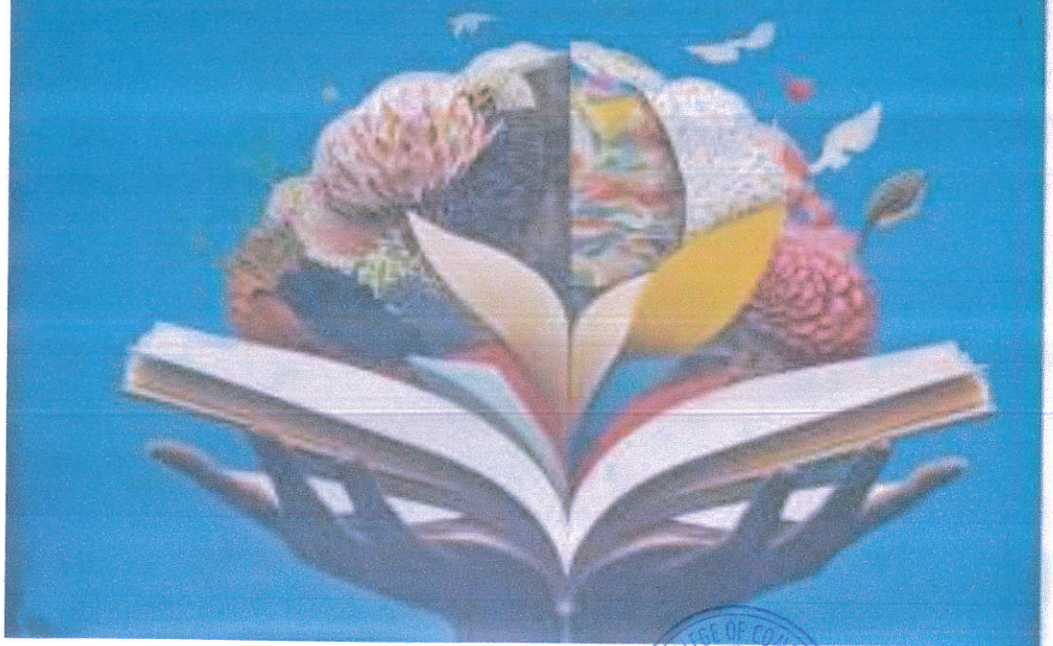
PRINCIPAL
SANTHIGIRI COLLEGE OF COMPUTER SCIENCES
VAZHITHALA P. O., THODUPUZHA
KERALA, PIN : 685 583

WORLD LITERATURE
WORDS OF WISDOM

Edited by

Dr S. Chelliah

Dr Bijender Singh



SANTHIGIRI COLLEGE OF COMPUTER SCIENCES THODUPUZHA KERALA 685 583

PRINCIPAL
SANTHIGIRI COLLEGE OF COMPUTER SCIENCES
VAZHITHALA P. O., THODUPUZHA

11. Trauma and Literature: The Enactment of Terrorism in Yasmina Khadra's *The Attack* and *The Sirens of Baghdad* 143
Dr V. Ganesan

12. The Impact of Tolstoy's Novels on Literature and Society: A Legacy of Reflection and Inspiration 153
Dr Parveen Bala and Dr Ritu Singh

13. Faith in Humanism and Need for Transcendence in Bernard Malamud's Fiction..... 161
Dr R. Rajesh

14. Mapping the Socio-Cultural Status of Bhutanese Women in Kunzang Choden's *The Circle of Karma* 169
Pooja Thulasan and Dr Indrani Singh Rai

15. Njabulo S. Ndebele's "The Prophetess": Narratives of South African Culture and Identity..... 179
Dr G. Priya

16. The Cultural Conflicts in Bapsi Sidhwa's Novels 187
Dr Anand Prakash Dwivedi

SANTHIGIRI COLLEGE OF COMPUTER SCIENCES
THODUPUZHA
KERALA
685 583
VAZHITHALA

PRINCIPAL
SANTHIGIRI COLLEGE OF COMPUTER SCIENCES
VAZHITHALA P. O., THODUPUZHA
KERALA, PIN : 685 583

14

Mapping the Socio-Cultural Status of Bhutanese Women in Kunzang Choden's *The Circle of Karma*

Pooja Thulasan and Dr Indrani Singh Rai

The term 'feminism' can be used to describe a political, cultural, and economic movement. The aim is equal rights for both men and women. Feminist theory is age-old in the history of literature. There is no single definition for feminism, however, the literary movement only aimed at the ending of discrimination, by providing gender as well as sexual equality. According to Maggie Humm and Rebecca Walker, the history of feminism is divided into three waves (13). The first wave of feminism pointed to the pause of women's suffrage. It also involves the emergence of numerous women's suffrage movements in the 19th and early 20th centuries. The movement primarily aimed at women's right to vote. The second wave of feminism refers to the actions and ideas associated with women's liberation movements of the middle 20th century. The wave also aimed at the social rights of women. Finally, the third wave of feminism concerned the continuation of the first and second waves. Mary Wollstonecraft in her work *A Vindication of the Rights of Woman* quotes:

> The idea that women are created simply to be ministers to the amusement, enjoyment, and gratification of men, was closely allied to the idea that peasants and workmen exist solely for the satisfaction of the wants and pleasures of aristocratic classes. (3)

In her book Wollstonecraft strongly argues the notion that the state always stands with the patriarchal society. And the so-called 'other' or women are regarded as a way of men's choice of amusement or enjoyment in an unhealthy way of treating them. Maya Angelou's *I Know Why the Caged Bird Sings* is an autobiographical tale of her life up to 17 which has received

SANTHIGIRI COLLEGE OF COMPUTER SCIENCES
THODUPUZHA
KERALA
685 583
VAZHITHALA

PRINCIPAL
SANTHIGIRI COLLEGE OF COMPUTER SCIENCES
VAZHITHALA P. O., THODUPUZHA
KERALA, PIN : 685 583

e-ISSN: 2582-5208
International Research Journal of Modernization in Engineering Technology and Science
(Peer-Reviewed, Open Access, Fully Refereed International Journal)
Volume:05/Issue:05/May-2023 Impact Factor- 7.868 www.irjmets.com

COMPUTER-AIDED DESIGN SYSTEM FOR EARLY DETECTION AND SCREENING OF GLAUCOMA USING PRETRAINED CONVOLUTIONAL NEURAL NETWORKS

Puneeth BR*1, Sudheeksha Shetty*2, Sigma Sathyan*3

*1,2Nitte (Deemed To Be University), Department Of MCA, NMAM Institute Of Technology, Nitte, Karnataka, India.

*3Santhigiri College Of Computer Sciences Vazhithala, India.

DOI : https://www.doi.org/10.56726/IRJMETS40745

ABSTRACT

Glaucoma, the second-leading cause of blindness worldwide, is a neuro-degenerative eye condition primarily caused by an increase in intraocular pressure within the retina. This paper presents a novel approach to developing a CAD system aimed at assisting in the early detection, screening, and treatment of glaucoma. The proposed system utilizes three pre-trained CNNs for classifying glaucoma. To train and evaluate the CNN models, several datasets were employed, including the DRIONS-DB, HRF dataset, and DRISHTI-GS dataset. Our system achieved impressive accuracy rates by leveraging the DRIONS-DB, HRF, DRISHTI-GS, and combined datasets. Specifically, accuracy rates of 95.63%, 98.67%, 95.64%, and 88.96% were obtained for each dataset. The results demonstrate the effectiveness of utilizing pre-trained CNNs in the proposed CAD system for glaucoma detection. The high accuracy rates obtained indicate the potential of this system in aiding medical professionals with early diagnosis and screening of glaucoma, thereby facilitating timely intervention and treatment.

Keywords: Glaucoma, Computer-Aided Design, Convolutional Neural Networks, Early Detection, Screening, Pre-Trained Models, Accuracy Rates, Intraocular Pressure, Blindness.

I. INTRODUCTION

The glaucoma group of eye conditions affects the optic nerve. Although it can also be brought on by high blood pressure, headaches, obesity, ethnicity, and family history, intraocular pressure (IOP) is frequently associated with glaucoma. High IOP is harmful to the visual nerve [1, 2]. Over 60s and adults are more prone to this illness. The majority of the damage caused by glaucoma is irreversible, and all kinds are incurable. The only choices given to patients are methods to reduce the disease's course. Early disease detection is essential for all treatments to be effective. However, due to the absence of overt symptoms, early identification is uncommon. In a Japanese study, it was found that 93 percent of those with glaucoma did not receive a diagnosis when the disease was still in its early stages[3]. By examining fundus images and specifically calculating the dimensions of the OC and OD (a depression in the OD), glaucoma can be identified. OD appears oval in shape and yellowish in color in a fundus picture. The OC can be seen as a white circle inside the OD that grows larger as the IOP rises. According to [4], The normal eye's CDR is 0.65. Any change in CDR is a sign that glaucoma is present. Glaucoma can be diagnosed by comparing the two and analyzing the differences. It has been demonstrated that visual computing systems are particularly proficient at classifying objects of interest within photographs and analyzing medical images. The main purpose of the majority of visual computer algorithms for medical imaging is to recognize the forms. For visual computing systems to recognize interesting artifacts in an image, significant training is required. A huge dataset is necessary for efficiently training such machines to learn. In the context of image analysis, datasets are groups of pertinent images that have been correctly recognized as regions of interest. There could be between a few hundred and a few thousand pictures. It has been shown that analysis quality increases considerably as dataset size increases [5]-[15].

SANTHIGIRI COLLEGE OF COMPUTER SCIENCES THODUPUZHA KERALA 685 583 VAZHITHALA

PRINCIPAL
SANTHIGIRI COLLEGE OF COMPUTER SCIENCES
VAZHITHALA P. O., THODUPUZHA
KERALA, PIN : 685 583

CRITERION 3

	Jayasimha P. V., Dr. Anoop B.K	
32.	Exploring the Potential of Machine Learning Algorithms for Prediction of Chronic Kidney Disease. Meghana G R, Dr. A Sasi Kumar, Kotramma T S	32
33.	Blockchain-Based Cryptographic Algorithm for e-Voting System Data Protection. Vinayachandra, Krishna Prasad K	33
34.	Exploiting the Potential of Supervised Learning Algorithms for Effective Swimmer Performance Prediction. Geetha Poornima K, Krishna Prasad K	34
35.	AI Innovations for Competitive Advantage in E-Commerce. Dsouza Prima Frederick	35
36.	A Comparative Study on Short term traffic flow prediction using ANN and CNN. Sigma Sathyan, Jagadeesha S N	36
37.	A Scope of Autonomous Robotics In the Society Using AI. Abhishek A Vernekar	37
38.	An Exploratory Case Study on Gamification in Educational Sector. Siji Jose Pulluparambil, Aqueena Joy, Dr.Subrahmanya Bhat	38
39.	Enhancing Medical Image Analysis with Convolutional Neural Networks: A Paradigm Shift in Healthcare Diagnostics. Soumya S, Krishna Prasad K, Navin N Bappalige	39
40.	Opportunities and Challenges in Securities of IOT Rhea Uppala, Indushree	40
41.	Study on role of digital forensic in Block Chain Technology Krishna Prasad K, Soumya S	41
42.	Development of Support Vector Machine Based Heve A Brasiliensis Leaf Disease Detection System and TensorFlow Based Mobile Application. Sanju S Anand, Shashidhar Kini	42
43.	IoT-Powered Emotional Decoding for Enhanced Higher Education with Facial Expression Analysis Rajeshwari M, Krishna Prasad K	43
44.	Innovative Approaches to Sentence Reordering for Coherent Text Generation in NLP. Suchetha Vijayakumar, Dr. Krishna Prasad K.	44
45.	Chromatic Insights: Exploring the Influence of Animation Color on Learning in Special Needs Children. Jeetha, Dr. Krishna Prasad K	45
46.	Navigating the Cloud: Unpacking Security Dilemmas and Challenges Madhura Yadav M P, Dr. Sanjeev Kulkarni	46

SANTHIGIRI COLLEGE OF COMPUTER SCIENCES
THODUPUZHA
KERALA
685 583
VAZHITHALA

PRINCIPAL
SANTHIGIRI COLLEGE OF COMPUTER SCIENCES
VAZHITHALA P. O., THODUPUZHA
KERALA, PIN : 685 583

TECHHORIZON 2023, ADVANCING FRONTIERS IN COMPUTER SCIENCE & INFORMATION TECHNOLOGY, DECEMBER 2023

A Comparative Study on Short term traffic flow prediction using ANN and CNN

Sigma Sathyan[1], & Jagadeesha S N[2]
[1]Research Scholar, College of Computer Science and Information Science, Srinivas University, Mangalore, India.
ORCIDID: 0000-0002-0092-9114; Email ID:sigmasathyan@gmail.com
[2]Research Professor, College of Computer Science and Information Science, Srinivas University, Mangalore,Karnataka, India.
ORCIDID: 0000-0002-5185-2233; Email ID: jagadeesha2012@gmail.com

ABSTRACT

Traffic flow prediction is a critical aspect of urban transportation management, and the integration of Artificial Neural Networks (ANN) and Convolutional Neural Networks (CNN) has shown promising results in enhancing the accuracy of these predictions. ANN, with its ability to learn complex patterns and relationships from historical traffic data, plays a crucial role in capturing the non-linear dynamics of traffic flow. By training on vast datasets containing information such as traffic volume, weather conditions, and time of day, ANN models can effectively recognize patterns and make predictions about future traffic conditions. The synergy between ANN and CNN allows the model to adapt to the dynamic nature of traffic conditions, considering both historical data and real-time spatial features. This integrated approach not only enhances the accuracy of predictions but also provides transportation authorities with valuable insights for proactive traffic management and congestion mitigation. As smart city initiatives continue to evolve, the application of ANN and CNN in traffic flow prediction represents a significant stride towards building more efficient and responsive urban transportation systems.

Keywords: Artificial Neural Networks, Convocational Neural Networks, traffic flow.

SANTHIGIRI COLLEGE OF COMPUTER SCIENCES
THODUPUZHA
KERALA
685 583
VAZHITHALA

PRINCIPAL
SANTHIGIRI COLLEGE OF COMPUTER SCIENCES
VAZHITHALA P. O., THODUPUZHA
KERALA, PIN : 685 583

Paper 56

Study on Forecasting Traffic Flow with FbProphet

Sigma Sathyan[1]
[1] Research Scholar, College of Computer Science and Information Science, Srinivas University, Mangalore, India.
ORCIDID: 0000-0002-0092-9114; Email ID: sigmasathyan@gmail.com

Jagadeesha S N[2]
[2]Research Professor, College of Computer Science and Information Science, Srinivas University, Mangalore,
Karnataka, India.
ORCIDID: 0000-0002-5185-2233; Email ID: jagadeesha2012@gmail.com

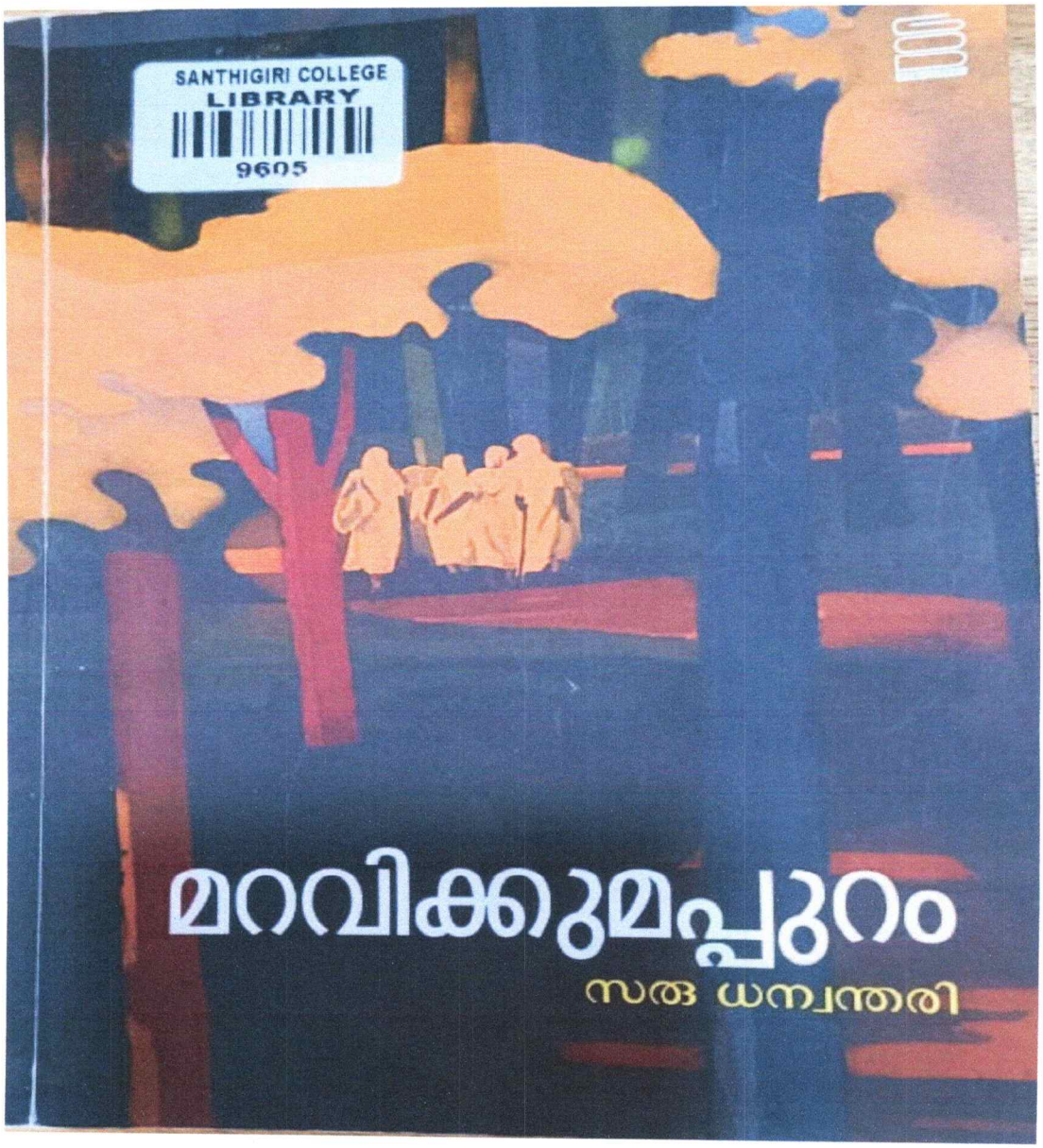
ABSTRACT

Predicting how traffic will flow is crucial for managing vehicular traffic. Congestion, accidents, and pollution have all worsened as a result of the recent rise in both rural and urban traffic. There are several traffic issues plaguing Indian cities, including inconsistent traffic flows, high levels of congestion, excessive noise and air pollution, and a corresponding increase in traffic-related deaths and injuries. Intelligent transport systems (ITS) have made considerable strides in recent years. The term "Intelligent Transportation Systems" refers to the use of information and communication technology to enhance the effectiveness of road transportation networks and find remedies to transportation issues. FbProphet is an additive regression model with a piecewise linear or logistic growth curve trend. It works best with time series that have strong seasonal effects and several seasons of historical data. We have successfully implemented the FbProphet time series forecasting tool at a minute-level dataset and we have got a good score. We can improve the score if we have more amount of data. The FbProphet was successful to capture the pattern, trend and also it showed the seasonal pattern and possible outcome. The most amazing thing is its timing. It took only a few seconds to fit the data and created such an astonishing result. So, if time is a factor for a challenge, fbprophet is a tool for time series prediction.

Keywords: Traffic Flow Prediction, Machine Learning, Deep Learning, Traffic Congestion, Short-term, Long-term Prediction, Urban Traffic, ABCD Analysis, Public traffic Dataset, ML Simulation models, Traffic prediction Challenges, FbProphet

SANTHIGIRI COLLEGE OF COMPUTER SCIENCES THODUPUZHA KERALA 685 583 VAZHITHALA

PRINCIPAL
SANTHIGIRI COLLEGE OF COMPUTER SCIENCES
VAZHITHALA P. O., THODUPUZHA
KERALA, PIN : 685 583



SANTHIGIRI COLLEGE OF COMPUTER SCIENCES
THODUPUZHA
KERALA
685 583
VAZHITHALA

PRINCIPAL
SANTHIGIRI COLLEGE OF COMPUTER SCIENCES
VAZHITHALA P. O., THODUPUZHA
KERALA, PIN : 685 583

അവതാരിക

മറവിക്കപ്പുറത്തുനിന്നും വന്ന ഓർമ്മകളുടെ കവിത

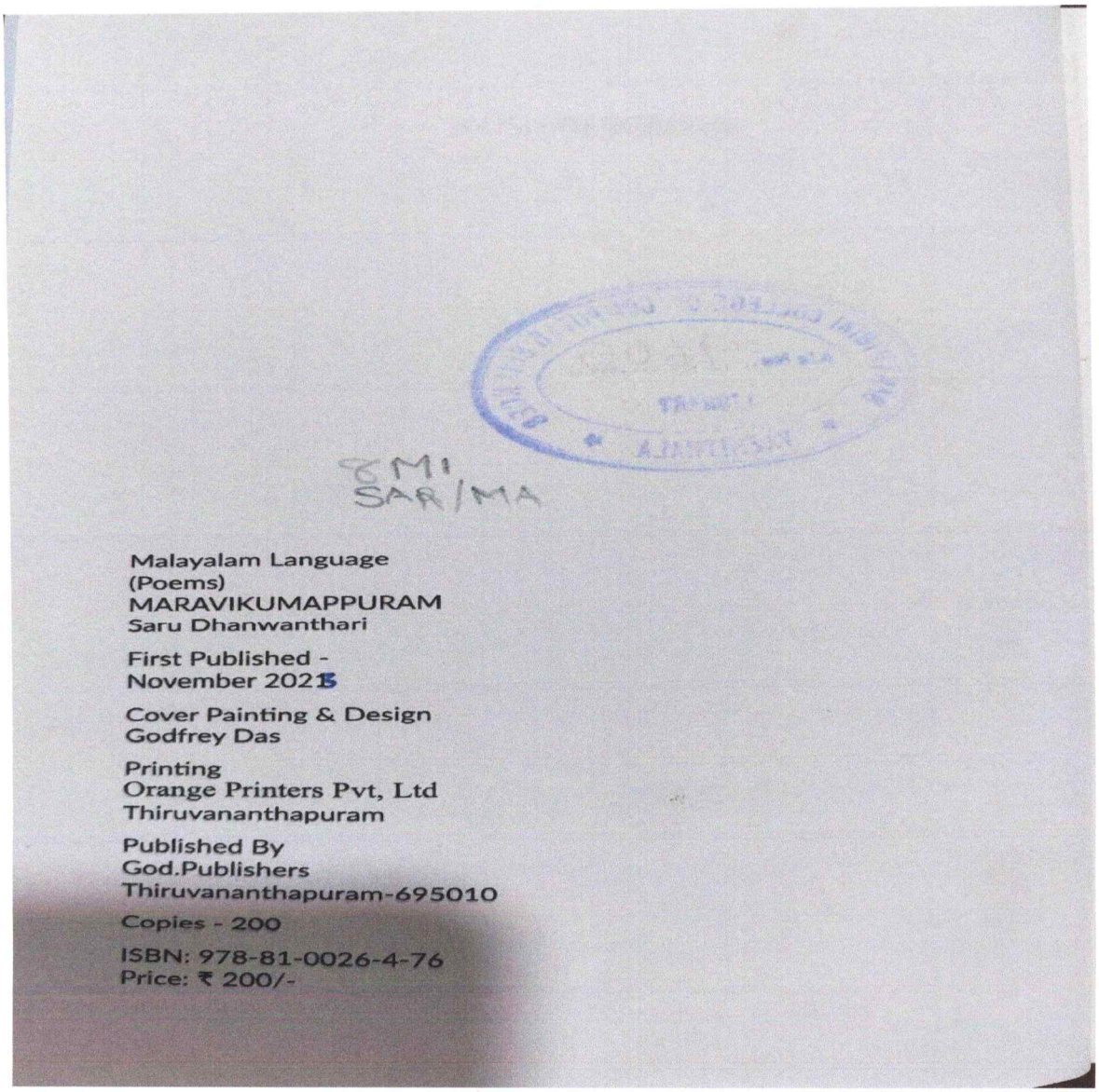
സരു ധന്വന്തരിയുടെ 'അഗ്നിയാവുക നമ്മൾ' എന്ന പ്രഥമ കവിതാ സമാഹാരത്തിന്റെ അവതാരികയിൽ കവി വിഷ്ണുനാരായണൻ നമ്പൂതിരി ഇങ്ങനെ കുറിച്ചു: ''സ്ത്രീയുടെ നിത്യനൂതനമായ അനുഭവവിശേഷങ്ങളാണ് ഒരർത്ഥത്തിൽ ഈ രചനകളിലെ വിഷയം എന്ന് ഒതുക്കിപ്പറയാം. അനുരാഗം, ഗാർഹസ്ഥ്യം, പുത്രവാത്സല്യം, വിയോഗവ്യഥ, വാർദ്ധക്യദൈന്യം അന്തിത്തുടിപ്പുപോലെ അസ്പഷ്ടമായ ആസ്തിക്യം - ഇതൊക്കെ ഇവയിൽ ഓരോന്നിലായിട്ട് ഊറിവരുന്ന രസധാരകളാകുന്നു.'' രണ്ടാമത്തെ സമാഹാരമായ 'മറവിക്കുമപ്പുറം' എന്ന കൃതിയിലേക്കു വരുമ്പോഴും ആ കവിതകളുടെ ഉൾത്തടങ്ങളിൽ നിന്ന് നാം ഇഴപിരിച്ചെടുക്കുന്ന അടിസ്ഥാനഭാവങ്ങൾ ഇവയൊക്കെത്തന്നെ എന്നു കാണാം. എന്നുവച്ച് എഴുതിയ കവിതകളിലെല്ലാം ഒരേ ഭാവമണ്ഡലം തന്നെ ചിത്രീകരിച്ച് തന്റെ പ്രതിഭാമണ്ഡലത്തെ വിശാലമാക്കാത്ത കവിയാണ് സരുധന്വന്തരി എന്നു ധരിക്കരുത്. മാനവികതയുടെ അടിസ്ഥാനശിലയിൽ നിലയുറപ്പിച്ചുകൊണ്ട്, താൻ കണ്ടതും അനുഭവിച്ചതുമായ ജീവിതമുഹൂർത്തങ്ങളെ സ്ത്രീ എന്ന നിലയിൽ വ്യാഖ്യാനിക്കാനുള്ള ശ്രമമാണ് മിക്ക കവിതകളിലും സരു അനുവർത്തിച്ചുപോരുന്നത്. എന്നാൽ രചനാവഴികളെ വീണ്ടും

SANTHIGIRI COLLEGE OF COMPUTER SCIENCES
THODUPUZHA
KERALA
685 583
VAZHITHALA

PRINCIPAL
SANTHIGIRI COLLEGE OF COMPUTER SCIENCES
VAZHITHALA P. O., THODUPUZHA
KERALA, PIN : 685 583

SANTHIGIRI COLLEGE OF COMPUTER SCIENCES
THODUPUZHA
KERALA
685 583
VAZHITHALA

PRINCIPAL
SANTHIGIRI COLLEGE OF COMPUTER SCIENCES
VAZHITHALA P. O., THODUPUZHA
KERALA, PIN : 685 583



GMI
SAR/MA

Malayalam Language
(Poems)
MARAVIKUMAPPURAM
Saru Dhanwanthari

First Published -
November 2021

Cover Painting & Design
Godfrey Das

Printing
Orange Printers Pvt, Ltd
Thiruvananthapuram

Published By
God.Publishers
Thiruvananthapuram-695010

Copies - 200

ISBN: 978-81-0026-4-76
Price: ₹ 200/-

SANTHIGIRI COLLEGE OF COMPUTER SCIENCES
THODUPUZHA
KERALA
685 583
VAZHITHALA

PRINCIPAL
SANTHIGIRI COLLEGE OF COMPUTER SCIENCES
VAZHITHALA P. O., THODUPUZHA
KERALA, PIN : 685 583

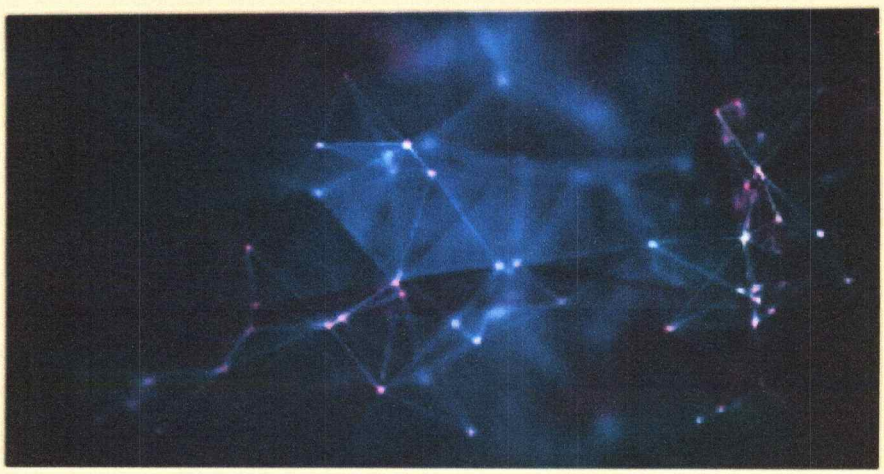
ISSN (Online): 2582-7898
SJIF: 5.59

IJPRSE
Progressive Research

International Journal of Progressive Research in Science and Engineering

IJPRSE

Volume: 04, Issue: 05, May 2021



GRD Publications
Website: www.ijprse.com

SANTHIGIRI COLLEGE OF COMPUTER SCIENCES * VAZHITHALA * THODUPUZHA KERALA 685 583

PRINCIPAL
SANTHIGIRI COLLEGE OF COMPUTER SCIENCES
VAZHITHALA P. O., THODUPUZHA
KERALA, PIN : 685 583

SANTHIGIRI COLLEGE
OF COMPUTER SCIENCES
Affiliated to M.G. University, Approved by AICTE and Accredited by NAAC

engineering proceedings

MDPI

Proceeding Paper

Machine Learning-Based Classification of Autism Spectrum Disorder across Age Groups †

Resmi Karinattu Reghunathan [1,*], Poornima Nanjagoundan Palayam Venkidusamy [1], Raju Gopalakrishna Kurup [1], Bindu George [2] and Neetha Thomas [3]

[1] Department of Computer Science, CHRIST University, Bengaluru 560029, India; poornima.nv@christuniversity.in (P.N.P.V.); raju.g@christuniversity.in (R.G.K.)
[2] Department of Computer Science, Nirmala College Muvattupuzha, Muvattupuzha 686661, India; tessygeorgesh@gmail.com
[3] Department of Computer Science, Santhigiri College, Vazhithala, Thodupuzha 685583, India; neethathomas@santhigiricollege.com
* Correspondence: resmi.kr@christuniversity.in
† Presented at the 2nd Computing Congress 2023, Chennai, India, 28–29 December 2023.

Abstract: Autism Spectrum Disorder (ASD) is a complex neurodevelopmental condition that has gained significant attention in recent years due to its increasing prevalence and profound impact on individuals, families, and society as a whole. In this study, we explore the use of different machine learning classifiers for the accurate detection of ASD in children, adolescents, and adults. Furthermore, we conduct feature reduction to identify key features contributing to ASD classification within each age group using Cuckoo Search Algorithm. Logistic Regression has the highest accuracy compared to the other two models.

Keywords: Autism Spectrum Disorder; machine learning; classifiers; cuckoo search

check for updates

Citation: Reghunathan, R.K.; Venkidusamy, P.N.P.; Kurup, R.G.; George, B.; Thomas, N. Machine Learning-Based Classification of Autism Spectrum Disorder across Age Groups. *Eng. Proc.* **2024**, *62*, 12. https://doi.org/10.3390/engproc2024062012

Academic Editors: Geetha Ganesan, Xiaochun Cheng and Valentina Emilia

Published: 15 March 2024

Copyright: © 2024 by the authors. Licensee MDPI, Basel, Switzerland. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (https://creativecommons.org/licenses/by/4.0/).

1. Introduction

Autism Spectrum Disorder (ASD) is a neurodevelopmental disorder characterized by a variety of behavioral and developmental abnormalities. A person with ASD will experience lifelong effects on their ability to interact and communicate with others [1]. Since its symptoms frequently appear in the first two years of life, autism is considered as a "behavioral disease" and can be diagnosed at any age. Experts claim that the ASD issue begins in childhood and lasts through adolescence and old age. The disease ASD also has an impact on how the human brain develops. Typically, a person with ASD cannot interact socially or have a discussion with others.

The effects of ASD on a person's life typically last throughout the rest of their lives. It is important to remember that this illness could occur as a result of both hereditary and environmental causes. This condition's symptoms can appear at almost three years of age and may continue for the rest of one's life. Although a patient with this condition cannot be totally cured, the effects can be temporarily reduced if the signs are caught early. Researchers believe that ASD may be linked to human genetics, though they have not definitively identified the precise underlying factors.

The major goal of this research is to improve the diagnosis of autism by developing a machine learning system that makes use of various machine learning algorithms to create an autism predictive model with the highest level of accuracy. The solution is to provide a very accurate predictive model that can predict whether an individual (adolescent, child, or adult) has ASD or not. The goal is to employ a standard approach for diagnosing autism and convert it into a machine learning model that can use medical data to generate predictions and observations, and lead to better solutions for identifying ASD as early as possible in the future.

SANTHIGIRI COLLEGE OF COMPUTER SCIENCES * VAZHITHALA * THODUPUZHA KERALA 685 583

PRINCIPAL
SANTHIGIRI COLLEGE OF COMPUTER SCIENCES
VAZHITHALA P. O., THODUPUZHA
KERALA, PIN : 685 583

www.ijprems.com
editor@ijprems.com

INTERNATIONAL JOURNAL OF PROGRESSIVE RESEARCH IN ENGINEERING MANAGEMENT AND SCIENCE (IJPREMS)

Vol. 04, Issue 05, May 2024, pp: 2331-2335

e-ISSN : 2583-1062

Impact Factor: 5.725

THE ROLE OF ARTIFICIAL INTELLIGENCE IN RECRUITMENT – TALENT ACQUISITION

Treesa Thomas[1]

[1]Assistant Professor Department of Management Studies Santhigiri College, Vazhithala.

DOI: https://www.doi.org/10.58257/IJPREMS34658

ABSTRACT

Artificial intelligence (AI) is transforming recruitment by enhancing efficiency and decision-making. AI algorithms can promptly analyze vast amounts of data, identifying top candidates from large applicant pools. They streamline the hiring process by automating routine tasks such as resume screening and initial candidate outreach. AI's predictive capabilities enable better matching of job requirements with applicant skills, leading to improved quality of recruitment. Moreover, AI tools help diminish unconscious bias, promoting diversity in the workplace. As AI continues to evolve, its role in recruitment is expanding, offering innovative solutions to traditional hiring challenges and shaping the future of talent acquisition.

Keywords- Artificial Intelligence, Talent Acquisition, Recruitment, Algorithms, Predictive Analysis

1. INTRODUCTION

In the dynamic background of modern-day recruitment, organizations are continuously seeking innovative solutions to streamline processes, enhance efficiency, and identify top talent. One such solution that has gained prominence in recent years is the integration of Artificial Intelligence (AI) technologies. AI offers transformative capabilities, revolutionizing traditional recruitment practices and paving the way for a more data-driven, efficient, and objective approach to talent acquisition.

The conventional recruitment process has long been characterized by manual tasks, subjective decision-making, and inherent biases. Recruiters sift through stacks of resumes, conduct interviews, and assess candidates based on subjective criteria, often leading to inefficiencies and missed opportunities. Moreover, unconscious biases in the hiring process, whether related to gender, race, or socioeconomic background, can inadvertently influence decision-making and perpetuate inequality in the workforce.

The emergence of AI technologies has heralded a paradigm shift in recruitment, offering a range of capabilities that address key challenges faced by organizations. At the forefront of this transformation is the ability of AI algorithms to analyze vast volumes of data with unprecedented speed and accuracy. AI-driven tools can parse through resumes, evaluate candidate profiles, and identify qualified candidates that best match job requirements, significantly reducing the time and resources spent on manual screening processes.

Furthermore, AI enhances the objectivity of recruitment practices by minimizing the impact of human biases. Traditional hiring decisions may be influenced by factors such as the recruiter's personal preferences, unconscious biases, or even the order in which candidates are reviewed. In contrast, AI algorithms focus solely on relevant qualifications, skills, and experiences, ensuring that candidates are evaluated based on merit rather than subjective criteria. By promoting fairness and impartiality in the recruitment process, AI helps organizations build diverse and inclusive workforces reflective of society's rich tapestry.

2. LITERATURE REVIEW

Theoretical and Conceptual Background on the Role of Artificial Intelligence in Recruitment Process

The integration of Artificial Intelligence (AI) into recruitment processes has emerged as a significant area of research and practice in recent years. This literature review aims to explore the theoretical and conceptual underpinnings that frame the role of AI in the recruitment process, focusing on key theories, models, and concepts that inform our understanding of how AI transforms traditional hiring practices.

1. Resource-Based View (RBV)

The Resource-Based View theory posits that a firm's competitive advantage stems from its unique and valuable resources and capabilities. In the context of recruitment, AI technologies can be viewed as strategic resources that enable organizations to gain a competitive edge by enhancing the efficiency, effectiveness, and quality of their talent acquisition processes. By leveraging AI-driven tools for candidate sourcing, screening, and assessment, organizations can access a larger talent pool, identify top performers, and align their workforce with strategic objectives

SANTHIGIRI COLLEGE OF COMPUTER SCIENCES THODUPUZHA KERALA 685 583 SANTHIGIRI * VAZHITHALA *

PRINCIPAL
SANTHIGIRI COLLEGE OF COMPUTER SCIENCES
VAZHITHALA P. O., THODUPUZHA
KERALA, PIN : 685 583

CRITERION 3

Solar PV Based Grid Scale Battery Energy Storage System with IBC and DAB
Garima Sharma; Rajesh Gupta
Publication Year: 2023 , Page(s): 1 - 6
Abstract HTML

Automated Segmentation of Infarct Core in Non-Contrast CT Scans of Ischemic Stroke Patients
U Akhil; Vivek Menon; Vivek Nambiar; P.T. Karthika Rani
Publication Year: 2023 , Page(s): 1 - 6
Abstract HTML

A Deep Learning Methodology CNN-ADAM for the Prediction of PCOS from Text Report
Neetha Thomas; Bosco Paul Alapatt; Kr Resmi; Mahesh Jose
Publication Year: 2023 , Page(s): 1 - 6
Abstract HTML

Improved Dual Measurement System based on SDFT-FLL with High Accuracy
Ranjan Tiwari; P. Sumathi
Publication Year: 2023 , Page(s): 1 - 5
Abstract HTML

State of Charge based Electric Vehicle Scheduling Within Existing Fast Charging Stations
Vamshi Adepu; Jayaram Nakka
Publication Year: 2023 , Page(s): 1 - 6
Abstract HTML

Innovative Communication Solutions for Specially-Abled Individuals: A Machine Learning-Approach to EEG Interpretation
Anikait Thakur; G J Girish Krithik; K Vani; K Kapilash; Saumarghya Ray; S Parthasarathy
Publication Year: 2023 , Page(s): 1 - 6
Abstract HTML

Classification of Skin Disease Dermoscopy Images Utilizing Multi-headed CNN
Anurodh Kumar; Amit Vishwakarma; Varun Bajaj
Publication Year: 2023 , Page(s): 1 - 5

SANTHIGIRI COLLEGE OF COMPUTER SCIENCES THODUPUZHA KERALA 685 563 VAZHITHALA

PRINCIPAL
SANTHIGIRI COLLEGE OF COMPUTER SCIENCES
VAZHITHALA P. O., THODUPUZHA
KERALA, PIN : 685 563

A Deep Learning Methodology CNN-ADAM for the Prediction of PCOS from Text Report

Publisher: IEEE Cite This PDF

Neetha Thomas ; Bosco Paul Alapatt ; Kr Resmi ; Mahesh Jose All Authors

40
Full
Text Views

Abstract
Document Sections
I. Introduction
II. Related Work and Backgrounds
III. Materials and Methods
IV. Language Processing with CNN
V. Proposed Methdology
Show Full Outline
Authors
Figures
References

Abstract:
Text categorization is a popular piece of work in natural language processing (NLP) and machine learning, and Convolutional Neural Networks (CNNs) can be used effectively for this purpose. Although CNNs are traditionally associated with computer vision tasks, they have been adapted and applied successfully to text classification problems. In the proposed study Convolutional Neural Networks (CNNs) with adam optimization algorithm plays a crucial role in detecting PCOS words from sonographic text reports

Published in: 2023 7th International Conference on Computer Applications in Electrical Engineering-Recent Advances (CERA)

Date of Conference: 27-29 October 2023

DOI: 10.1109/CERA59325.2023.10455723

Date Added to IEEE *Xplore*: 05 March 2024

Publisher: IEEE

ISBN Information:

Conference Location: Roorkee, India

I. Introduction
Polycystic ovarian morphology is a common gynaecological hormone problem, found in 2–20% of women on their Puberty. Though PCOS is testified as an oligogenic disorder the shadowy factor is its genetic aetiology [1]. Numerous medical studies are undergoing in this field. In a recent study PCOS is stated as a chronic anovulation syndrome related with androgen excess called hyperandrogenic anovulation [2], yet the medical diagnosis of the disease can predominantly estimate throu[illegible] ultrasound, and another method to assess the

Sign in to Continue Reading

SANTHIGIRI COLLEGE OF COMPUTER SCIENCES * VAZHITHALA * THODUPUZHA KERALA 685 583

PRINCIPAL
SANTHIGIRI COLLEGE OF COMPUTER SCIENCES
VAZHITHALA P. O., THODUPUZHA
KERALA, PIN : 685 583

EDUCATION ACROSS BORDERS

A GLOBAL CALL FOR DIVERSITY

DR. AMIT M. PATEL
DR. BAI M K
DR. RAO M
DR.PILLARISETTY SUJEETHA
MR. MIDHUN MOORTHI C

ISBN: 978-81-972806-1-0

SANTHIGIRI COLLEGE OF COMPUTER SCIENCES
THODUPUZHA
KERALA
685 583
VAZHITHALA

PRINCIPAL
SANTHIGIRI COLLEGE OF COMPUTER SCIENCES
KERALA, PIN : 685 583

 ISBN: 978-81-972806-1-0

Table of Contents

ers	Title	Page No.
	Enriching Education: A Global Call for Diversity Across Borders *M.Maheswari, Dr.K.G.Revathi*	5
	Partnering with Families and Local Communities: Enhancing the Learning Environment *Dr. Abhijit Chandratreya*	11
	Crossing barriers by enhancing education globally *Dr. Lakshmi Pillai*	19
	Equity And Access In Education *Mrs M. K. Vijayalakshmi, Miss S. Showbharnikhaa*	26
	Global Paradigm Shift of Healthcare Education and Training From India to the World *Dr. Amit M. Patel*	32
	Navigating Generational Diversity and Cyber Wisdom in Higher Education *Mr.Midhun Moorthi.C*	35
	Awareness Level of Youth Towards international Migration - A Study with Special Reference to St. Peters College Kolenchery *Dr. Bincy Baby*	42
	Navigating the Terrian: Challenges and Opportunities in Implementing Multicultural Curriculum in Nigeria *Fowowe, S.S. Ashimolowo, A.S.*	47
	Beyond Borders: Fostering Cultural Understanding and Inclusion in Educational Settings *Dr. Arnel E. Genzola*	56
	Learning From Each Other Around The World: Fostering Entrepreneurial Mindset in University Students: Enhancing Global Instructional Diversity and Supporting All Students *Dr Tsuu Faith Machingura, Dr Doreen Nkala*	62

SANTHIGIRI COLLEGE OF COMPUTER SCIENCES * VAZHITHALA * THODUPUZHA KERALA 685 583

PRINCIPAL
SANTHIGIRI COLLEGE OF COMPUTER SCIENCES
VAZHITHALA P. O., THODUPUZHA
KERALA, PIN: 685 583

CRITERION 3

Education Across Borders: A Global Call for Diversity ISBN: 978-81-972806-1-0

CHAPTER 7

AWARENESS LEVEL OF YOUTH TOWARDSINTERNATIONAL MIGRATION - A STUDY WITH SPECIAL REFERENCE TO ST. PETERS COLLEGE KOLENCHERY

Dr. Bincy Baby
Dept. of Commerce
Santhigiri College, Vazhithala, Idukki Dist, Kerala.

INTRODUCTION

The movement of people from one nation, region or locate to another is referred to as migration. Humans have always moved, both as individuals and in groups, in search of freedom from oppression and war, from starvation and poverty, from political repression or religious intolerance, or simply to trade and explore new areas. India being a largely populated country with huge educated young minds cannot climb the ladders of growth and prosperity with the limited resources and capital it has. So, it promotes people to migrate to different countries. Now a days youth use education as their advantage and fly to different western countries. There are many immigration friendly countries and they provide different kinds of financial assistance to students.

Significance Of The Study

Young people are migrating more frequently. The younger generation move in quest of employment or to further their education. They pick up a wide range of knowledge and are also impacted by the way of living in the West. One of the benefits of migration is the use of cutting –edge family planning technology. IT promotes the interaction of individuals from various cultural backgrounds and increases one's chances of professional success. This study is a great way to learn more about people's awareness of international migration with particular reference to St. Peter's College in Kolenchery. The study focuses on comprehending the issues associated with young international migration.

Scope Of The Study

Indian students are migrating to different international destinations for achieving their dreams. This increasing trend among youth is seen on students all around India. The present study is limited to the students of St. Peter"s College, Kolenchery.

Objective Of The Study

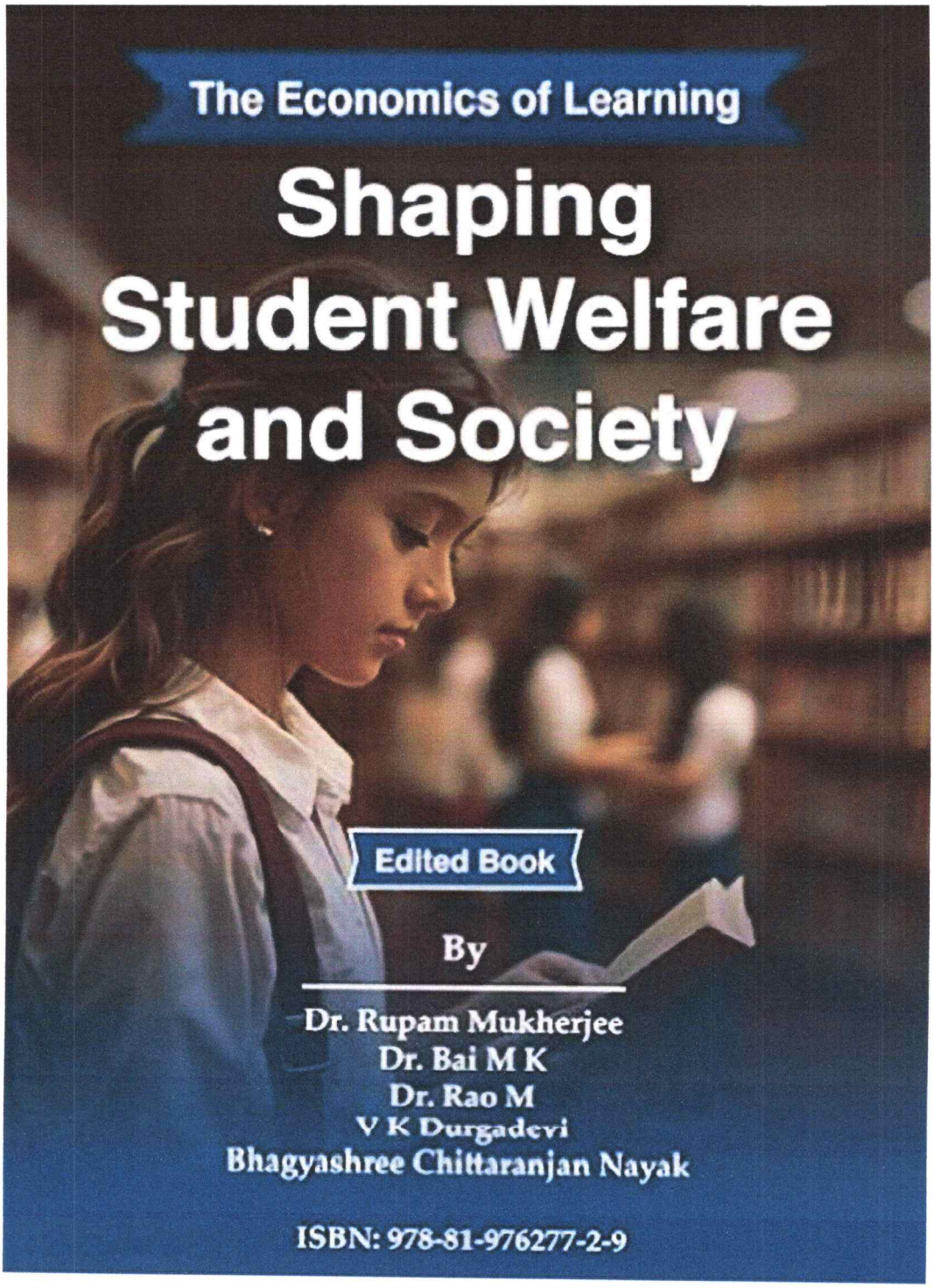
To analyze the awareness level towards international migration among youth with special reference to St. Peter"s College, Kolenchery.

Hypothesis:

Ho: There is no significant relationship between gender and awareness on international migration of youth.

SANTHIGIRI COLLEGE OF COMPUTER SCIENCES THODUPUZHA KERALA 685 583 SANTHIGIRI VAZHITHALA

PRINCIPAL
SANTHIGIRI COLLEGE OF COMPUTER SCIENCES
VAZHITHALA P. O., THODUPUZHA
KERALA, PIN : 685 583



SANTHIGIRI COLLEGE OF COMPUTER SCIENCES THODUPUZHA KERALA 685 583 VAZHITHALA

PRINCIPAL
SANTHIGIRI COLLEGE OF COMPUTER SCIENCES
VAZHITHALA P.O., THODUPUZHA
KERALA, PIN : 685 583

The Economics of Learning: Shaping Student Welfare and Society ISBN: 978-81-976277-2-9

CHAPTER 11

THE PERCEPTION OF STUDENTS ON THE ROLE OF EDUCATION IN ECONOMIC GROWTH AND DEVELOPMENT

Dr. Bincy Baby
Department of Commerce
Santhigiri College of Computer Sciences, Vazhithala

INTRODUCTION

Education has an important role in sustainable and consistent economic growth of our nation. Education is one of the pillars and it brings economic growth to the nation. Developing countries like India facing lack of financial and industrial resources. Lack of resources can pose a hindrance to economic growth of our nation. Students in developing and under developing countries are facing other barriers from social, economic, political field. Human capital and skilled labour force are required to foster the development of innovative services in Technologies, Medical, and Space etc. Since to overcome these barriers, investment in education is needed and Government and authorities should consider and take certain programmes, policies and rules to develop the career through education. Investment in education has an important role in driving economic growth (Beal, 2012).

SIGNIFICANCE OF THE STUDY

Human beings are capital of our society. Education has a significant role in economic development. Educational Institutions are the bubs of Research and Development. According to the new rule of UGC and AICTE, Higher Educational Institutions should have to focus on innovation activities and to implement within the organisation through the active participation of Students and Faculty due to education brings potential possibilities. Education supports people to obtain information, develop critical thinking, intellectual maturity, knowledge, communication abilities, skills, good behaviour, changing mentality and attitudes and also allows them to bring different socio economic changes and advancement in modern scientific and technical fields in the world.

OBJECTIVE OF THE STUDY

The main objective of the study is to understand the perception of students on the role of education economic growth of our nation.

RESEARCH METHODOLOGY

Research methodology is a set of procedures or techniques used to identify, select, process, and analyse information about a topic.

SAMPLE SIZE

The study collected data from 104 students from Santhigiri College in Vazhithala.

SAMPLE TECHNIQUE

The technique which is used in the study is simple random sampling

SANTHIGIRI COLLEGE OF COMPUTER SCIENCES * VAZHITHALA * THODUPUZHA KERALA 685 583

PRINCIPAL
SANTHIGIRI COLLEGE OF COMPUTER SCIENCES
VAZHITHALA P. O., THODUPUZHA
KERALA, PIN : 685 583