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1	G. Vinoda Reddy	Analysis of Artificial Intelligence Enabled Intelligent Sixth Generation (6G) Wireless Communication Network.	10.1109 / ICDSIS 55133. 2022. 9915945	978-1-6654-9802-9	IEEE International Conference on Data Science and Information System (ICDSIS) & IEEE	Oct-22
2	Dr.Mahesh Kotha	Big data analytics and machine learning techniques manage the smart grid.	10.1109/ICCCI56745.2023.10128623	979-8-3503-4822-4	International Conference on Computer Communication and Informatics (ICCCI) & IEEE	Jan-23
3	Vankudothu Malsoru	An Efficient SFLA and CUCKOO Search Hybridization for Source Distribution in Cloud Computing.	10.1109/ICICACS57338.2023.10100133	979-8-3503-9847-2	IEEE International Conference on Integrated Circuits and Communication Systems (ICICACS) & IEEE	Feb-23

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CO-ORDINATOR

HOD CSE(AI &ML)

Head
Department of CSE (AI & ML)
CMR Technical Campus
Kandlakoya (V), Medchal Road,
Hyderabad, Telangana - 501 401.

2022 IEEE International Conference on Data Science and Information System (ICDSIS)

Analysis of Artificial Intelligence Enabled Intelligent Sixth Generation (6G) Wireless Communication Networks

1st S.Manthandi Periannasamy
Department of ECE
Malla Reddy Engineering College for Women (Autonomous)
Hydrabad, India
smpsamy5@gmail.com

2nd Chitra Thangavel
Department of ECE
Christian College of Engineering and Technology
Dindigul, India
chitra18041987@gmail.com

3rd Sahukar Latha
Department of ECE
Sreenidhi Institute of Science and Technology
Hyderabad, India
lathaSahukar@gmail.com

4th G.Vinoda Reddy
Department of CSE (AI&ML)
CMR Technical Campus
Hydrabad, India
vinodareddy.cse@cmrtc.ac.in

5th S.Ramani
Department of ECE
Sreenidhi Institute of Science and Technology
Hyderabad, India
ramanis@sreenidhi.edu.in

6th Pooja Vitthalrao Phad
Department of Information Technology
G.Narayanamma Institute of Technology & Science
Hyderabad, India
poojaphad26@gmail.com

7th S.Ravi Chandline
Department of ECE
Nalla Narasimha Reddy Education Society's Group of Institutions
Hyderabad, India
ravichandsankuru1@gmail.com

8th S.Gopalakrishnan
Department of ECE
Siddhartha Institute of Technology and Sciences
Hyderabad, India
drsgk85@gmail.com

***Abstract*—5G Generation connections, which have many novel features compared to Four-G connections, will be dispatched authoritatively very soon. Between 2027 and 2030, it is anticipated that the sixth-generation wireless communication system, utilising the entirety of artificial intelligence, will be implemented. In addition to 5G, there are a number of fundamental challenges that must be addressed, including increased scheme capability, higher data rates, and improved quality of service (QoS). This accessible manuscript discusses upcoming 6G wireless technology and its situation. Emerging technologies such as artificial intelligence and optical wireless technology are discussed. With 6G, mobile networks are anticipated to become one hundred times faster. As 6G expands beyond terrestrial networks and into space, it will enable new scenarios and services with terabytes of data traffic, enabling unprecedented human-machine interaction. 5G is intended to provide peak data rates of 20 Gigabits per second (Gbps) and average user experience rates of 120 Megabits per second (Mbps). It is anticipated that 6G speeds will be closer to 1,000 Gbps and 1 Gbps, respectively. 6G enables options such as holographic communication à la Star Trek and X reality (XR, which integrates AR, VR, and Mixed Reality). One of the goals of 6G cyberspace will be to deliver messages with a microsecond delay as opposed to a 1000-period delay. The 6G technology is enhanced by the combination of artificial intelligence and machine learning (AI), Using sub-mm waves, the 6G significantly influences the calculated communication capability for location determination. Using sub-mm Wave (e.g., wavelengths less than one millimetre) in conjunction with frequency selectivity to determine comparative electromagnetic incorporation charge will lead to significant advancements in wireless sensing technology. In terms of 5G, the calculation of mobile edge computing (MEC) is merely the tip of the iceberg. By the time 6G networks are established, it will be simpler to incorporate computation into collective communication and arithmetic. This generation continues to evolve in response to more distributed radio access networks (RAN) and the desire to utilise the terahertz (THz) range to further extend functionality, reduce latency, and improve spectrum sharing efficiency. It is expected that application 6G will find widespread use in the administration and production of emulsions. Clearly, 5G development communications are more uniform, and global spending has begun. Academic cooperation has started to incubate the next generation of wireless communication systems (namely 6G) in fields such as community security, health monitoring, and space excellent capabilities in order to further the development of wireless networks. Sixth G intended to provide the foundation for the stratification of communication needs in the 2030s.**

***Keywords*—5G, 6G, Artificial Intelligence, Past 5G, Data speed, Enormous connectivity, Terahertz.**

I. Introduction

A. Introduction of 5 G & 6G

It is expected that the forthcoming fifth-generation (5G) and sixth-generation (6G) wireless communication networks will be more advanced by comparison to the current fourth-generation (4G). There are a few important and ordinary issues related to 5G and 6G communication network assessment excellence that are eminently large in accordance. Low latency, high security, small-control usage, big difference between occurrences, and reliable association. There is no doubt that 6G will provide many folds better performance than 5G communication for these issues.

This article discusses how optical wireless methods, which include observable ray communication, brightness stewardship, optical communication and space complementary space optics communication, will be an important part of a successful 5G/6G and Internet of Things scheme. A number of outstanding features of optical wireless communication (OWC) automations have troubled wide range learn observe in recent years [1–5]. "OWC" stands for optical wireless connectivity.

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Big data analytics and machine learning techniques to manage the smart grid

M.Elavarasi
school of computing sciences
Vels University
Pallavaram, Chennai, India
elavarasinila@gmail.com

Ramakrishna Kolikipogu
Information Technology
Chaitanya Bharathi Institute of Technology (A)
Hyderabad, India
krkrishna.cse@gmail.com

Dr. Mahesh Kotha
Department of CSE, (AI&ML)
CMR Technical Campus
Hyderabad, India
kotha.mahesh528@gmail com

M. V. B. T.Santhi
Department of Computer Science and Engineering
Koneru Lakshmaiah Education Foundation
Vaddeswaram, AP, India
santhi2100@gmail.com

Abstract— **Big data is a crucial part of the Energy Internet. Integrating renewables and smart grids is vital and exciting. Any power plant must collect and evaluate data to make educated choices. This study examines big data analytics in renewable energy based power plants. This paradigm implements big data analytics for renewable energy utilities and smart grids. The authors describe a five-step machine-learning approach to predict smart grid dependability. Using 64,000 occurrences and 12 attributes from an intelligent grid data system, we expected the system's stability using three machine-learning algorithms. The penalized linear regression model achieves 95% accuracy using 70% of the training data. The random forest model is 84% accurate vs 77% for the decision tree. CNN and gradient-boosted decision tree models obtained 86% classification accuracy. This study's small dataset prevents extensive data analyses. Cloud computing and real-time event analysis are well-suited for a data analytics infrastructure. Future research should include data from additional countries and renewable energy sources.**

Keywords- Big data analytics, smart grid, machine learning, Decision tree.

I. INTRODUCTION:

Smartphones, computers, enhanced measurement infrastructures, and human activities and conversations produce more data. Exabytes and zettabytes are used to quantify internet data. Rational, productive, and efficient data analysis benefits our everyday lives and business. The acquired data are growing exponentially and getting more complex. Big data is a new problem and an opportunity for processing and analysing enormous volumes of data.

Big data is a new word. However, the notion of uncovering important information from massive gathered data for corporate decision-making was presented by Howard Dresner in 1989 as "business intelligence." The Internet revolution and ubiquitous information-gathering devices lower data-collecting costs, but the volume and complexity challenge standard data analytics methodologies.

Big data requires definition. Different definitions agree that an extensive dataset with numerous categories and complex structures needs a new framework and tactics to extract meaningful information. Big data use data mining techniques and systems to manage large datasets. Not absolute. Big data is information that ICT needs to be able to store, handle, or analyse efficiently.

II. FRAME WORK- BIG DATA ANALYTICS:

The research suggests that a large volume of data, which should be saved and processed promptly, may aid in data analysis and decision-making. Consumption rates, use patterns, synchronization of waves, maintenance schedules and reports, financial data, etc. Thanks to technological advancements in communication, we can now provide quick updates and control the demand and supply ratio. Conventional software tools may not detect power system oscillations accurately. For example, Applications are more critical when employing renewable energy sources, which are more likely to place unforeseen strain on the long-distance transmission lines linking the grid with outlying locations. The demand response of electricity grids, EVs, and DERs may benefit from well-managed big data. For this reason, the energy markets may benefit from the improved and more secure bidirectional communication made possible by big data.

In addition, we consider the problem of anticipating the power infrastructure's and intelligent grid's future requirements. Using BDA, we will find various characteristics like decision-making, load-bearing planning, and power commitment. Assessing the available energy and the grid's capacity to transfer it is crucial, particularly for renewable energy sources. Equipment downtime analysis, as well as

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An Efficient SFLA and CUCKOO Search Hybridization for Source Distribution in Cloud Computing

1st Vankudothu Malsoru
Department of IT
CMR Technical Campus
Hyderabad, India
malsoru.it@cmrtc.ac.in

2nd Amareshwari Patil
Department of Computer Science & Engineering
PDA College of Engineering
Kalaburagi, India
aspatilpdacse@gmail.com

3rd Kusuma S M
Department of Electronics and Telecommunication Engineering
Ramaiah Institute of Technology
Bengaluru, India
kusumasm@msrit.edu

4th Gandla Shivakanth
Department of Computer Science & Engineering
K L University, Vadeeshwaram
Vijayawada, India
Shvkanth0@gmail.com

5th N. Samanvita
Department of Electrical & Electronics Engineering
Nitte Meenakshi Institute of Technology
Bengaluru, India
samanvitha.n@nmit.ac.in

***Abstract*—Cloud calculating is a computing prototype that offers inexpensive, scalable computing resources like CPU, storage, and network bandwidth. It provides a pay-as-you-go model for gaining instantaneous online access to a shared pool of resources. This strategy is proposed to cut down on the required amount of computing time. In the most recent paper, authors employ a hybrid approach to resource allocation by combining two powerful optimization algorithms: the Shuffled Frog Leaping Algorithm (SFLA) and the Cuckoo Search (CS) Algorithm. With this algorithm, we can get around the computational time constraints of the HABCCS algorithm and the krill herd algorithm. It's easily scalable, so even niche uses can benefit. The SFLA has the potential to generate a global optimization solution and comes with the added benefits of faster convergence and simpler implementation. Algorithms from the field of computer science are used in difficult situations because of their advantageous simplicity in evaluation. The knapsack problems that normally crop up during the phase of allocating resources are also addressed. The efficacy of the third strategy is evaluated. The investigational consequences demonstrate the greater presentation of the projected method equated to the state-of-the-art methods.**

Keywords—sfla, cs, cloud computing, habccs.

I. INTRODUCTION

The term "cloud computing" refers to a delivery model that uses internet-based technologies to provide on-demand, scalable, and elastic service provisioning. In addition, it allows users to self-serve, with resource allocation determined by how much was used. For those interested in the cloud, Resource Allocation (RA) is the process of dividing up available resources among users who need them. Due to the limited number and unpredictable availability of resources, resource allocation is a major challenge in the field of cloud computing [1]. Allocating cloud computing resources to users efficiently is one of the most difficult tasks service providers face.

In order to fulfill user requests, the system monitors available resources and chooses the most suitable ones. It also aids in getting the most out of your available resources. The goal of any method for selecting resources is to locate ones that are both suitable. for the task at hand and available for use. Dynamic resource availability, high algorithm complexity, and all other requirements relevant to Cloud Service Providers make resource selection a nontrivial task. Resource selection is a task that can often be completed with the help of optimization algorithms [2]. Simple to well-known meta-heuristic algorithms are among the many optimization strategies in use. Resource allocation can also benefit from the application of artificial intelligence algorithms like those based on biological inspiration or Game Theory.

Methods for resource selection can be categorised as either a priori or a posteriori. In the a priori case, the initial proposed solution for the assignment was the best possible one [3]. This goal would be reached by taking into account all relevant factors in the assignment as part of the policy. Instead, a less-than-ideal solution is initially assigned. In order to better this solution in the future, the Cloud Service Provider must consistently manage its resources. Decisions like allocating or reallocating resources, if necessary, should be made to maximize resource utilization or to meet the needs of cloud users.

The dynamic nature of resource utilization and provisioning necessitates a rapid convergence to an optimal assignment stage for any posteriori optimization strategy. In addition, it's important to make the most of existing solutions while gradually enhancing them to meet changing demands [4].

The discovery process is the most important part of resource management because it determines how effectively resources are allotted and managed. It scours the available options for a tool that will work with what you need [5]. The resource broker or user agent develops this procedure to find the needed resources among those that are accessible.

Resource discovery allows cloud-based resource management systems to communicate with one another and learn about the health of the resources under their care. Additionally, part of the discovery process involves updating

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Political Optimizer-Based Automated Machine Learning for Skin Lesion Data

Gurram Sunitha, B. Swaroopa Rani, Shankar Nayak Bhukya, Hafeena Mohammad, and R. Hitesh Sai Vittal

Abstract Today in the age of information revolution, everything is being automated. Machine learning is needed for every industry to boost growth in business, health, agriculture, and everyday life. As machine learning is creating its importance in every industry, wherever there is scope for information generation, practicing machine learning is less than 40% in real life. This is mainly because of the challenges, while creating, implementing, and deploying machine learning models which require expertise. In this scenario, automated machine learning tools allow everyone without knowledge of coding to use insights from machine learning models. In this paper, an efficient model has been designed and developed for skin lesion imagery classification. The research work undertaken in this paper is to tune hyperparameters using political optimizer for constructing efficient classifier. The proposed model is gauged on ISIC-17 dataset, and average accuracy, sensitivity, specificity were 97.86, 0.9736, 0.9878, respectively. The proposed model has been evaluated with existing classification techniques SVM and BPN for comparative analysis, and it has been justified per the experimental outcomes that the classifier model with political optimizer for hyperparameter tuning proposed in this paper performs better than the SVM and BPN models.

Keywords Automated machine learning · Machine learning pipelines · Political optimizer · Hyperparameter tuning · Machine learning model training

G. Sunitha (✉)
Department of CSE, School of Computing, Mohan Babu University, Tirupati, India
e-mail: gurramsunitha@gmail.com

B. S. Rani · H. Mohammad
Department of CSE (AI&ML), CMR Technical Campus, Hyderabad, Telangana, India

S. N. Bhukya
Department of CSE (Data Science), CMR Technical Campus, Hyderabad, Telangana, India

R. H. S. Vittal
Hyundai Mobis, Hyderabad, India

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