

3.4.4 Number of books and chapters in edited volumes published per teacher during the last five years

Sl. No.	Name of the teacher	Title of the book published	Title of the chapters published	Year of publication	ISBN number	Whether at the time of publication Affiliating Institution was same Yes/No	Name of the publisher
ACADEMIC YEAR 2022-23							
1	Mrs.J.S.Radhika	Object Oriented Software Engineering	-	2023	978-81-960146-2-9	Yes	Indo Continental Academic Publishers
2	Dr.K.Prabakaran	Concepts of Phytochemistry	-	2023	978-81-965046-6-3	Yes	Infinite Research
3	Dr. K. Gunasekaran	Distrbuted Computing	-	2023	978-93-84608-89-7	Yes	ARS Publications
	Dr.G.Suresh	Digital Image Processing	-	2022	978-93-5625-215-8	Yes	Scientific International Publishing House (SIPH)
5	Dr.S.Vijayarangam	Cyber Security	-	2022	978-93-95331-82-1	Yes	RK Publications
6	Dr.J.S.Adeline Johnsana	Internet of Things	-	2022	978-93-95331-93-7	Yes	RK Publications
7	Dr.S.Kishore Verma	Cryptography and Network Security	-	2022	978-93-95331-88-3	Yes	RK Publications

8	Dr.CH.Narasimha Chary	Data Science and Big Data Analytics	-	2022	978-93-95191-17-3	Yes	Deccan Academic Publishers
9	Dr. K. Gunasekaran	The Future of Wind Energy	-	2022	979-8-88697-232-0	Yes	Nova Publisher
ACADEMIC YEAR 2021-22							
1	Dr.G.Suresh	-	Cloud Computing with Wireless Network and Pattern Recognition	2021	978-81-952585-3-6	Yes	Dipti Press (OPC) Pvt Ltd.,
2	Dr.P.Ramesh	Fundamentals of Embedded Systems and Internet of Things	-	2021	978-93-92153-11-2	Yes	South Asian Academic Publishers
3	Dr N C SendhilKumar	Advaned MicroProcessor and Microcontroller	-	2021	978-6203929331	Yes	LAP LAMBERT Academic Publishing
4	Dr N C SendhilKumar	Electronic Devices and Circuits; Diodes, Transistors, Rectifier	-	2021	978-6204190846	Yes	LAP LAMBERT Academic Publishing

5	Dr.J.Martin Sahayaraj	Mobile Adhoc Networks	-	2021	9788195346721	Yes	YGMRO Publications
6	Dr.N.Subash	-	An Investigation on Tabu Search Algorithm Optimization	2021	978-81-956353-5-1	Yes	REST LABS
7	Dr.T.Charansingh	Machine Learning for Beginners	-	2021	978-81-952459-2-5	Yes	South Asian Academic Publishers
8	Dr.CH.Narasimha Chary	Introduction to Block Chain Technology	-	2021	978-81-953693-5-5	Yes	South Asian Academic Publishers
9	Dr.Sampath Korra	Identification and classification of the reusable software components using equivalency metric	-	2021	978-81-947313-4-4	Yes	Winger Publications




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10	Dr.Sampath Korra	Novel Techniques for records matching process and de-duplication using rough sets	-	2021	978-93-90631-30-8	Yes	Paramount Publishing House
ACADEMIC YEAR 2020-21							
1	Dr.J.Martin Sahayaraj	-	An Innovative and Scalable SDV Architecture for Wireless Sensor Networks	2021	978-81-952585-3-6	Yes	2021 Dipti Press (OPC) Pvt. Ltd
ACADEMIC YEAR 2019-20							
1	Dr.J.Martin Sahayaraj	Mobile Computing	-	2020	978-93-89125-83-2	Yes	Rudra Publications
2	Dr.J.Martin Sahayaraj	Computer Networks	-	2020	978-81-941840-6-5	Yes	Evincepub Publishing




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Mr. K V Siva Prasad Reddy Working as a Assistant Professor in Jawaharlal Nehru Technological University Ananthapur college of Engineering Pulivendula (JNTUACEP) he had completed her Bachelor of Engineering in Computer Science and Engineering from Madanapalle Institute of Technology & sciences (MITS) Madanapalle, JNTUH University. He completed his Masters of Engineering from Rajeev Gandhi Memorial College of Engineering and Technology (RGM CET), Nandyala, JNTUA University. He is pursuing Ph.D in Department of Computer Science and Engineering in Vels Institute of Science, Technology & Advanced Studies (VISTAS), Chennai. He had Published 10 Papers in International Journals, 1 SCOPUS journal and 5 Conference Papers. He had Completed 6 online certification courses. He had Published book chapter title Computer Vision for Weed Identification in Corn Plants Using Modified Support Vector Machine by IGI Global. He had filled 2 Innovation Patents. He is having 11 years of Experience in teaching. His areas of Interest are Data Mining, Big Data, Machine Learning, Image Processing Artificial Intelligence, Deep Learning etc.



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B. Navya received her B.Tech degree in Computer Science and Engineering from Christ Jyothi Institute of Technology & science, JNTU Hyderabad in 2013 and M.Tech Degree in Computer science and Engineering from Teegala Krishna Reddy Engineering College, JNTU Hyderabad in 2016. Since 2019, she is Currently working as Assistant Professor in CSE Department at Sri Indu College of Engineering and Technology, Hyderabad, India. She has Published 1 Scopus Indexed Papers and She has Spapers in International Journals. Recently, she has Published 1 Paper in International Conference conducted by KL University, Hyderabad and she submitted 2 Patents. She Organized and Participated in various FDP's and Workshops. She is the Active and she has consistently played the role of a mentor, providing the students with guidance at all levels.



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PREFACE

This book aims to provide a broad view of **OBJECT ORIENTED SOFTWARE ENGINEERING** is well known in various engineering fields. It logically explains complicated concepts and stepwise methods to explain essential topics. Each chapter is well supported with the necessary illustrations. All the chapters in the book are arranged in a proper sequence that permits each topic to build upon earlier studies.

OBJECT ORIENTED SOFTWARE ENGINEERING is an important research area. The techniques developed in this area so far require to be summarized appropriately. In this book, the fundamental theories of these techniques are introduced.

The brief content of this book is as follows-

- CHAPTER 1 OBJECT-ORIENTED CONCEPTS, MODELLING**
- CHAPTER 2 INTRODUCTION TO SOFTWARE ENGINEERING**
- CHAPTER 3 SOFTWARE REQUIREMENTS**
- CHAPTER 4 DESIGN ENGINEERING**
- CHAPTER 5 TESTING AND IMPLEMENTATION**
- CHAPTER 6 PROJECT MANAGEMENT**
- CHAPTER 7 SOFTWARE MAINTENANCE COST FACTORS**
- REFERENCES**

This book is original in style and method. No pains have been spared to make it as compact, perfect, and reliable as possible. Every attempt has been made to make the book a unique one.

In particular, this book can be handy for practitioners and engineers interested in this area. Hopefully, the chapters presented in this book have just done that.



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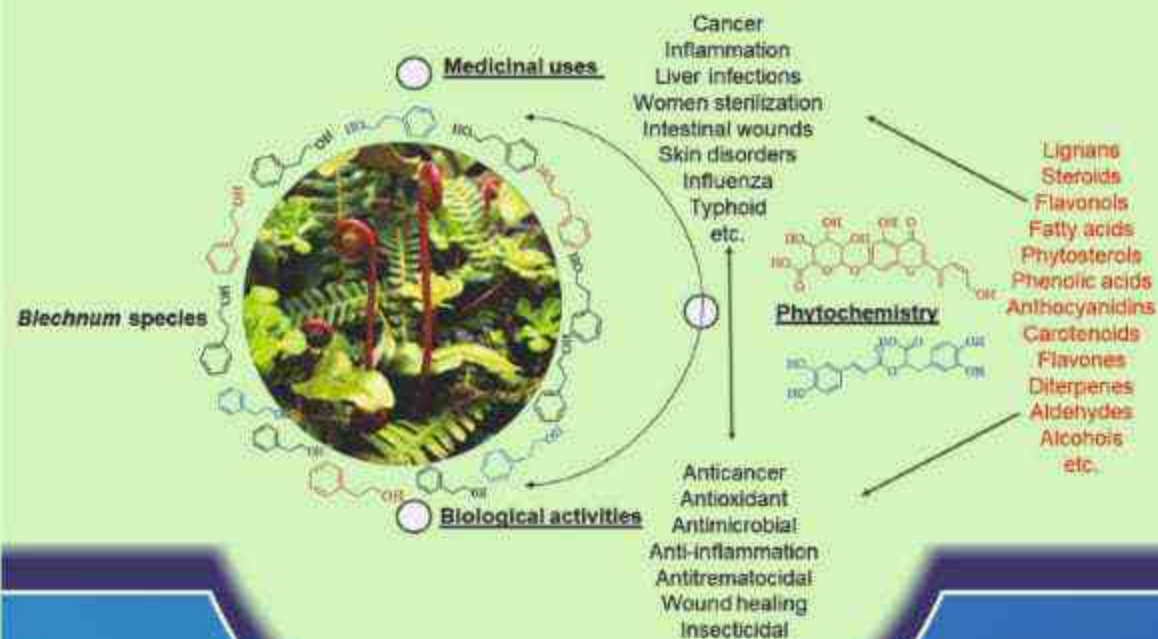
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CONCEPTS OF PHYTOCHEMISTRY



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CONCEPTS OF
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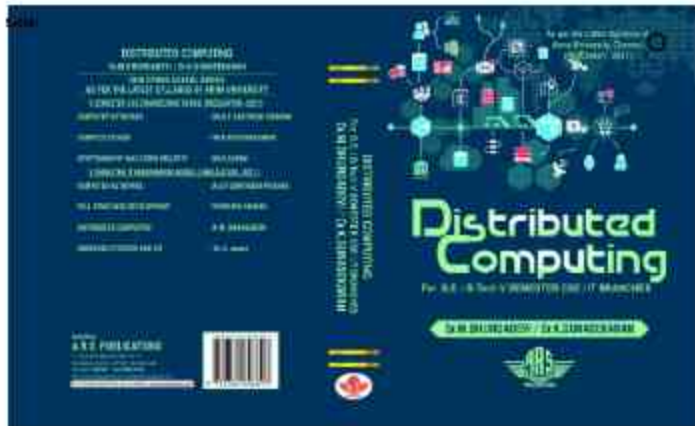


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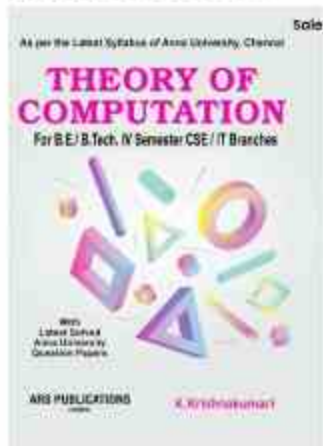
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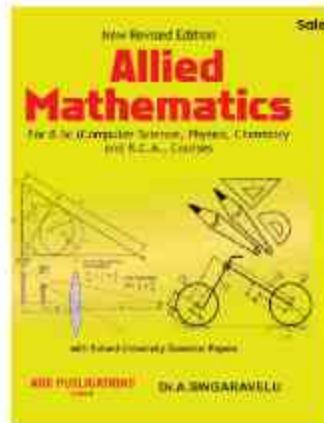
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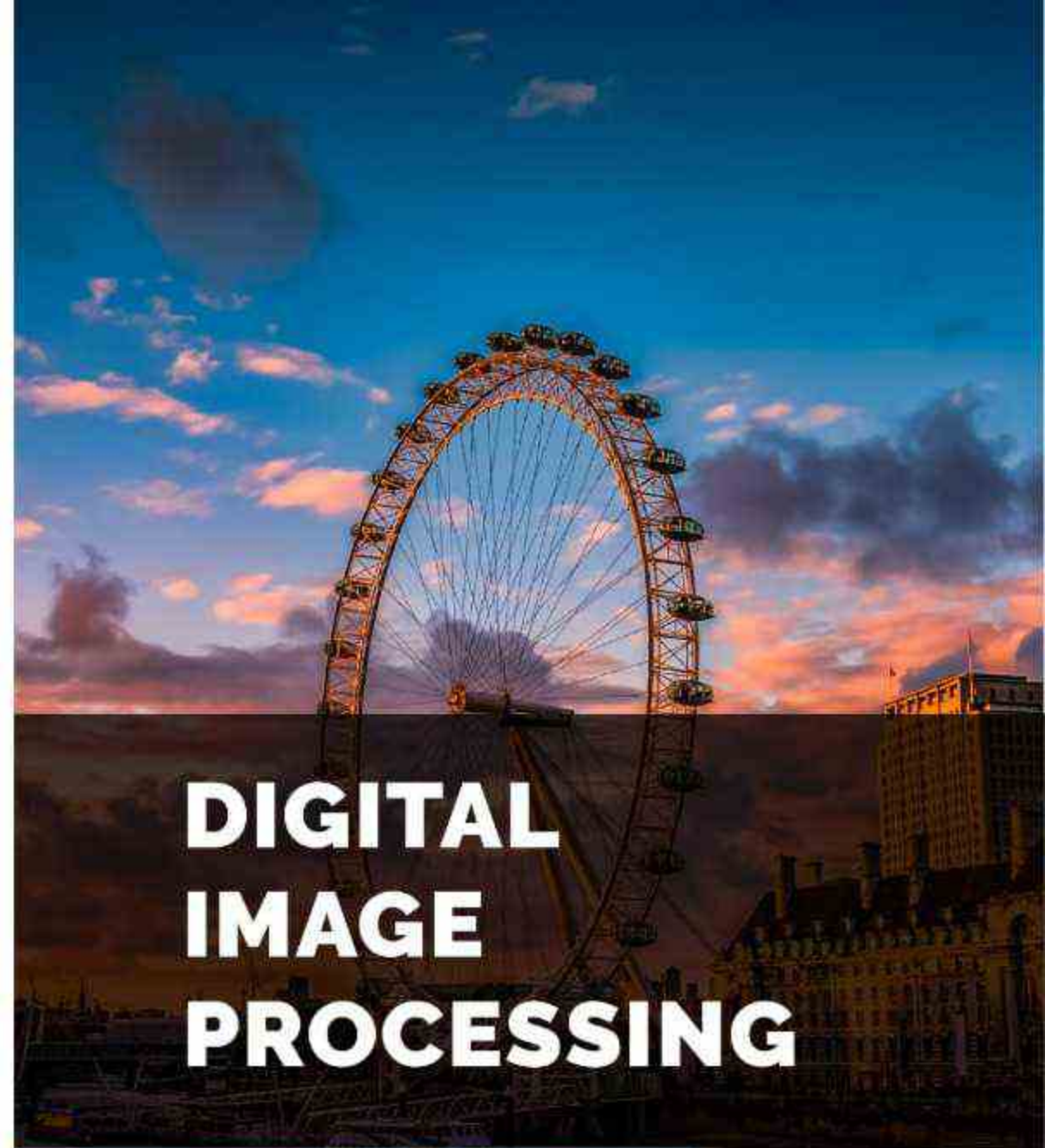
Dr. N. Anbuselvan received the B.E. degree in Electrical and Electronics Engineering from university of Madras in year 2000, received the master of technology in Sensor System Technology from Vellore Institute of Technology in the year 2004 and Ph.D. degree in field of Nanoelectronics HEMT device from Anna University in the year 2019. He has teaching experience of about 18 years in both undergraduate and postgraduate level program. He has attended 10 international conferences and more than 40 National and International level events (Workshops, Industrial Training Programs, Seminars & FDPs) in various colleges and universities. His area of interest is the field of Nano Electronics, MOS Device Physics, RF/Analog Performance investigation of novel MOS device structures, and Power Electronics devices. Have international journal publication around 25 in impact journal, Scopus & WoS index journal and guided many enormous student projects in the field of Nano device, VLSI design, Image Processing, Wavelet Analysis and Artificial Intelligence.



Dr. N. Kumaratharan, obtained his Ph.D. in the field of Wireless Communication from Pondicherry University in 2010. His area of research includes spread spectrum techniques, broadband communication and wireless sensor networks. He has more than 16 years of teaching and research experience. He has guided ten Ph.D. scholars of Anna University, Chennai and ten are in the pipeline. He has published 45 peer-reviewed indexed international journals. He has 46 international conference proceedings indexed by IEEE and Elsevier Academia. He is a reviewer of several international journals and is listed by PUBLONS. He is Anna University nominated Board of Studies member for an Autonomous Institution affiliated to Anna University. He had chaired sessions in several national and international conferences and delivered numerous invited talks in faculty development programmes, seminars and guest lectures. He is a fellow IETE, senior member of Association of Computer Electronics and Electrical Engineers, Member of International Association of Engineers and Life member of Indian Society for Technical Education.



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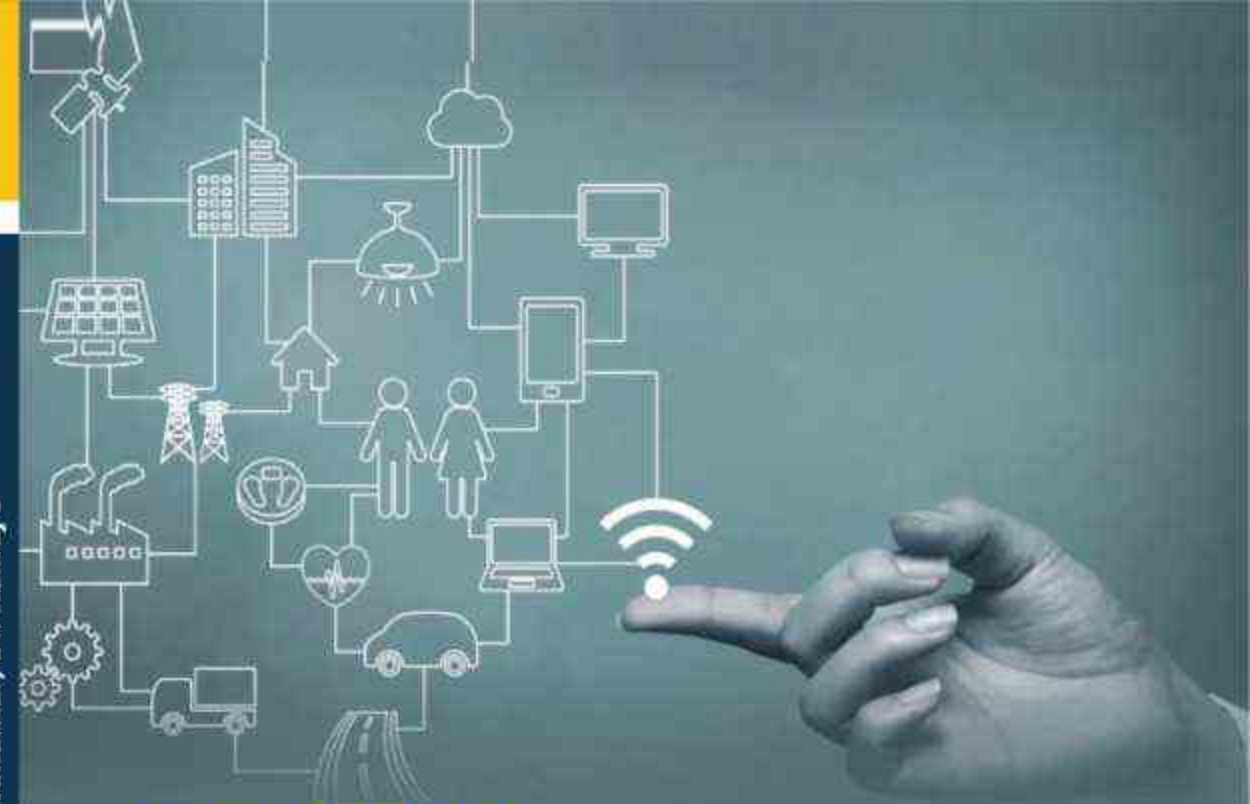


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CRYPTOGRAPHY AND NETWORK SECURITY
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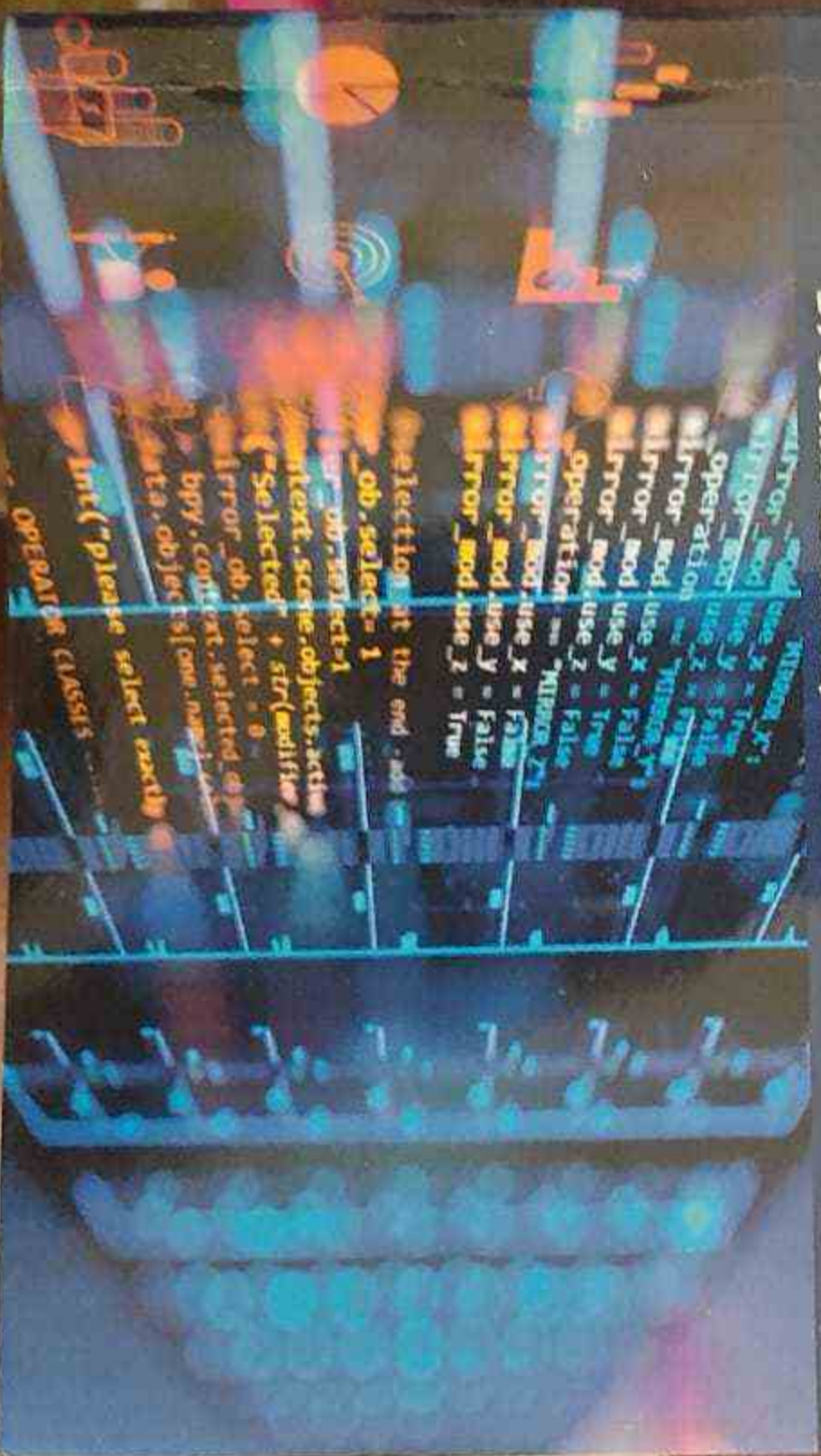
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DATA SCIENCE AND BIG DATA ANALYTICS

Dr.P.Vinay Bhushan, Dr.Narasimha Chary Ch
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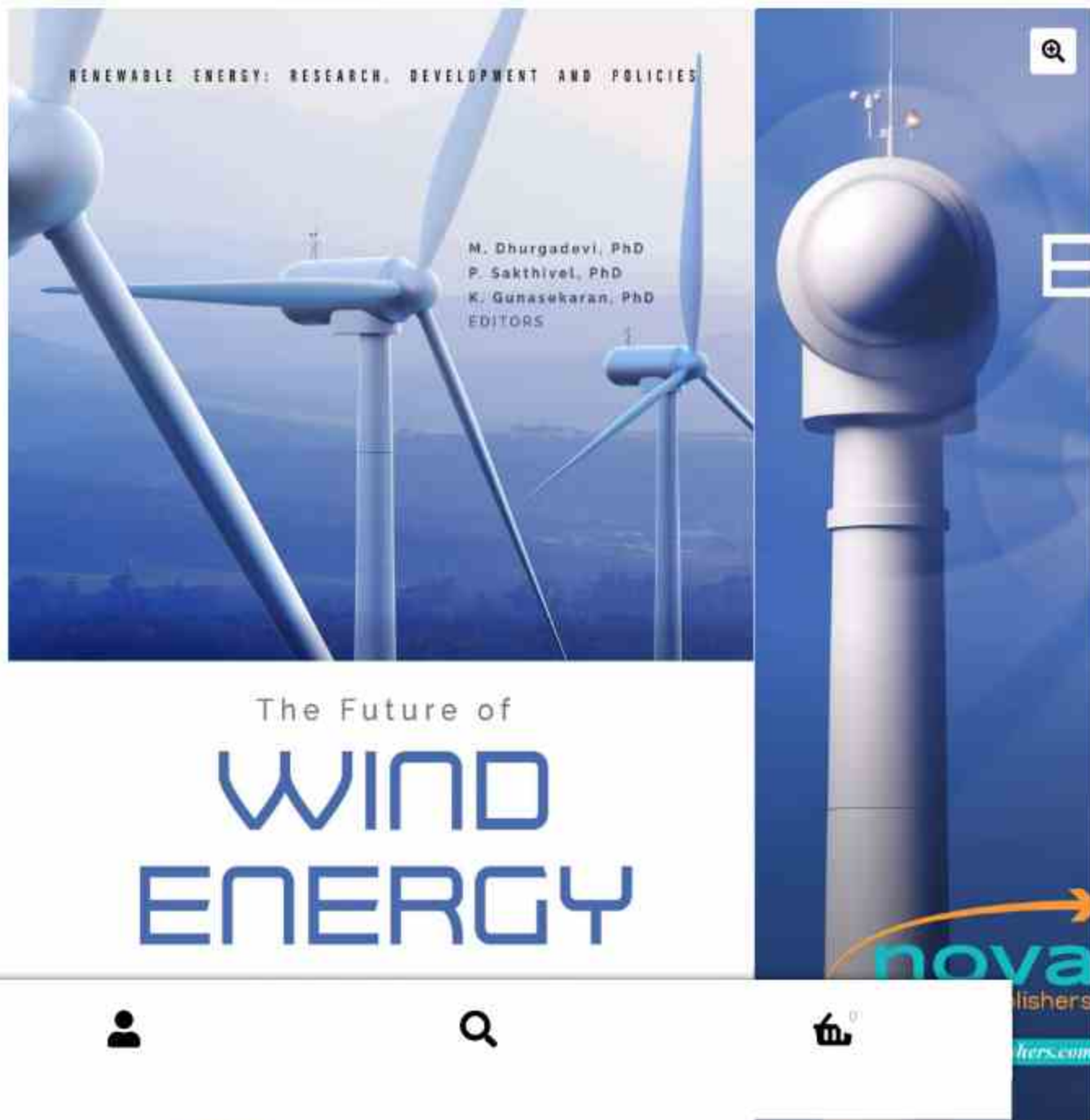


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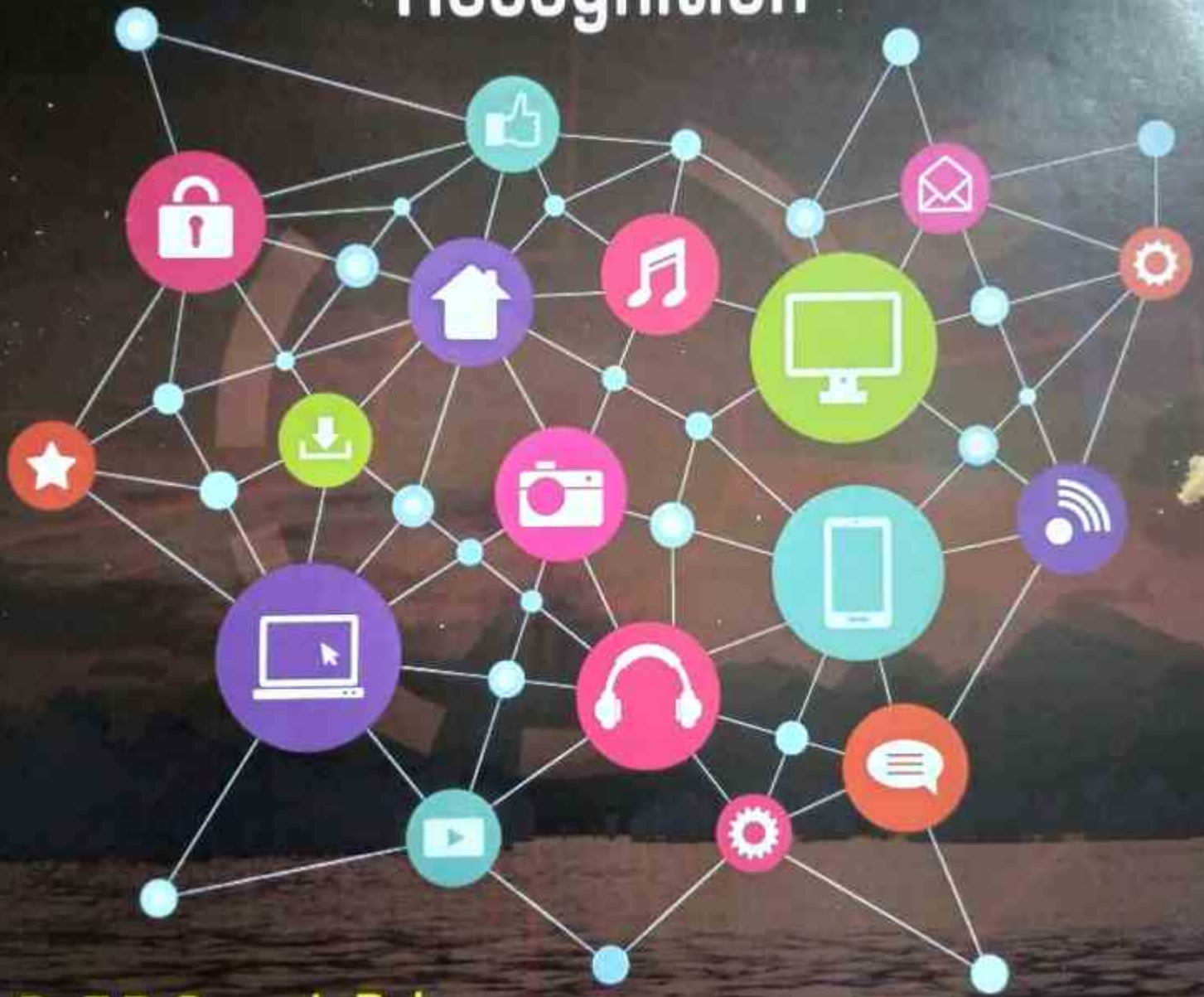
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Cloud Computing with Wireless Network and Pattern Recognition



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Winged Thoughts



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Cloud Computing with Wireless Network and Pattern Recognition

By

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Wireless Smartphone Charger Device Expedition Optimization Technique for Wireless Sensor Network System

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Abstract

The use of wireless smartphone chargers (WMC) is a promising approach to increasing the sensor network's lifespan. This study aims to improve the WMC moving trajectory and charge time at any stay to achieve improved energy consumption and density estimation. In addition, the methodology WMC is presented. Compared to previous ventures, the entire network is split into charge regions to load multiple nodes simultaneously, which reduces the loading delay and increases connection speeds. The suggested schema takes account in optimizing WMC's moving direction, which increases energy efficiency, of both the residual energy of the nodes positioned at each cognitive radio (CR) besides WMC's time to move. Similarly, the majority of the energy of the nodes of the other CRs is used for optimization of charging time to increase the lifetime of the system. The simulation findings demonstrate that the Wireless Smartphone Charger Device Expedition Optimisation Technique (WMCEO) system proposed increases network efficiency through various network calculation metrics.

Introduction

Sensor networks consist essentially of sensor nodes spread across the network area. Wireless networks and semi-conductor technologies are quickly developed and implemented, and WSN is used in various ways, including intelligent houses, traffic control and

field monitoring [1]. Although the detector nodes are typically fitted with a small energy supply, the sooner or later energy is depleted, and the connection and lifespan are low. Furthermore, it is currently impractical to repair the expired node's battery, and a suitable means is thus required to boost node life.

Many solutions to tackle the issue of real-time constraints in WSNs were proposed in recent decades [2, 3]. Energy production is one of the greatest common methods that help the nodes accumulate and transform energy [9]. Energy-based technologies can harvest energy from the atmosphere or relevant energy sources from a wireless smartphone charger. Energy harvesting from all nodes is very inefficient and raises the overhead network. As a result, many scientists seek to hire WMCs in the network that moves the energy collection responsibility after nodes to WMCs.

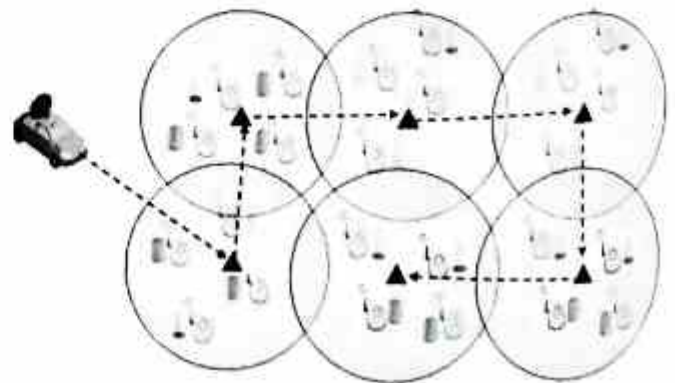


Figure 1. Overview of the Wireless reloadable sensor network

Figure 1. Overview of the Wireless reloadable sensor network (WRSN) contains several IoT devices configured for energy reception by a WMC with a Radio Frequency (RF) circuit. A WMC is free, either through radio frequency or non-radiative coupling techniques, to travel along the specified or random direction and wirelessly load knots batteries.

Several methods based on the WRSN have been established in recent years. The biggest research challenge for such devices is extending the life of battery-limited sensors. As a result, a power transmission model has been modelled and studied using various transmitter locations. In addition, a WRSN architecture described as energy-efficient software was implemented in [8]. To build green WSNs for smart cities, the cooperative energy also knowledge transfer procedure has been used. Based on the simultaneous wireless knowledge, I author to devise a problem to optimize energy competence. In addition, their study calls a power conversion system. It has been proposed a multi-functional SenCar system. In this scheme, a wireless mount is used to custody static sensor nodes during its relocation trip and capture mobile data.

Literature Survey

Likewise, two key architecture problems for WRSN are shifting the WMC direction and charging period for WMC at each anchor opinion. Several systems in recent years have sought to refine all parameters to increase the life of the network. In order to simplify the Wireless Charging Plan for the collection of data in WRSN, a scalable hierarchy cluster node-Gosper island transmitting system has been built. In this research, energy harvesting technologies focused on both RF and magnetic resonance coupling were explored.

In a constructive solution for the charging problem, there is a grid-based joint routing besides loading procedure for WRSNs. In addition, a new routing protocol was developed to realize a local energy balance based on the charger's charging features. Furthermore, the charging period and charge opinion was optimized through the power usage arising from the routing phase to attain a global energy balance. Equally, the WRSN is split into many areas depending on the original topology

network. Then, the entire network's configured loading path problem becomes the local optimization technique of zones.

The algorithm was presented for the perceptual storing. This scheme's key aim is to decrease the number of idle nodes besides boosting the system existence. Recharge demands from nodes are obtained, then the viable travel route is determined. Authors proposed maximizing the route to load all nodes throughout the network region. The goal is to optimize the number of concurrently charged nodes behind this algorithm.

In addition, authors first implemented a linear programming formula to resolve a WMC scheduling issue. Besides, they recommended an accusing approach based on a Gravitational Search procedure that minimizes the network's latency. The use of mobile vehicles to refill the sensor nodes in a room set is made. A charge preparation is presented for the solution of the Traveling Salesman problem using the virtual ring algorithm. To optimize the charge output, a charging device is proposed. Diverse carbon emissions, an offline algorithm, an online algorithm and sensor nodes were planned accordingly.

The authors have considered that all sensor nodes in the charging area were charged concurrently by a handheld wireless charging device. They decide the optimum number of nodes for the respective site to achieve a high charge efficiency and all the information produced by the nodes enter the base station. An ESync algorithm has been implemented to decrease the energy addition for certain unwanted sensor nodes for synchronous energy charge preparation. The authors developed a probabilistic optimization algorithm to decrease the regular node waiting time by constructing an efficient charging arrangement.

Proposed System

Figure 1 displays the used routing protocol. This article distributes arbitrarily multiple locational sensor nodes in the region of the network. A WMC that moves and regenerates the batteries via sensor nodes is also used. The WMC combines that modules into CRs, contributing to the many nodes' simultaneous charging by the non-contact energy conversion. The

synchronized knots' loading allows the minimum sentence for the other instruments to decline and the delay to be decreased. The range of CRs is the same as the charge variety of WMC, to cover any node located in a CR. The WMC also has a Base Station (BS) [20], allowing WMC to simultaneously gather information from sensor nodes.

The device nodes then directly transmit their information packets per device to the BS. The WMCEO algorithm runs for the optimum CR anchor before beginning pushing the WMC from a fixed location. After the next CR anchor is specified, the WMC begins to shift to the centre. Then, for a fixed charge duration determined in the second segment of the proposed WMCEO, he remains at their respective CR. After each CR has elapsed after the charge time, the WMCEO function is again running until all branches replenish their power supply.

WMC charges nodes for the CR during each CR's stay and gathers information from nodes across the entire network. Furthermore, if the residual WMC energy drops below a sure level, energy is extracted from and converted into power from the atmosphere. In addition, the charging time in the proposed algorithm is designed such that during this time, no nodes of other CRs will run out of their capacity.

This means that the accusing time of the WMC in the CR anchor is no longer than the nodes' life in the other CRs. When measuring the charging time, the lifespan of nodes situated in other CRs should be weighed. The longevity of nodes depends on its power consumption and length to the WMC.[19] As the charging period in the anchor, CR is not able to extend the time of the additional nodes, an Acute Node (AN) with shorter time is considered in determining the charge time dependent on residual energies and distance to WMC parameter The AN is the lowest energy node with the longest path to WMC. Then the maximally scored nodes will be known as the AN in the network where (ECons).

The new CR anchor formulated by Equation is the energy ingesting of AN during WMC's stay. In addition, speed shows WMC's speed. The WMC should abandon the anchor CR in the proposed algorithm before the AN's energy of exhaustion. In the course of WMC remains at the CR anchor,

no node dies. The loading period of the WMC at the CR anchor is thus determined by adding the necessary period to complete the AN nodes' load and life. In the following example (a considerable amount of research) and (role assigned) are added in the measurement of the WMC charge period on the current CR anchor to calculate each component's movement of money. In algorithm 1, the comprehensive algorithm is defined. In comparison, the note used in this article is summarised.

Results and Discussions

In the following example (work and the company) and (role assigned), each portion's commitment proportion is calculated in determining the charge period for WMC at the real anchor CR. The results are numerically introduced to the proposed WMCEO methodology. In the algorithm, the comprehensive algorithm is defined. In addition, this section includes a description of the notes used in this article. A programme package for numerical analysis and computing uses MATLAB/Simulink to simulate the proposed algorithm. The random distribution of 50 ~ 300 standardized nodes is in the 100 m to 100 m network region. WMC is going at one m/s level. Each node's initial energy is 0.5 J, with a data packet size of 100 bits. Additional criteria are used.

In connection with network life and energy level measurements, the proposed scheme's efficiency is measured compared with the class is designed in [7, 8]. This is because these algorithms are programmed to increase network life by minimizing the time of the WMC travelling tour and billing. After a WMC charging loop, it shows the residual energy in nodes. The charging mechanism functions in loops in the proposed scheme. Each loop begins from the moment the WMC travels from the first CR anchor to the end of the last CR loading time. Since nodes from the same CR are concurrently charged with WMC, they can be detected roughly equivalent energy levels.

This achievement strengthens the equilibrium of node resources besides extends the life of the system. In addition, the influence of β_1 in addition to β_2 values on system life will be evaluated across three separate weighting combinations. In the first setup $\beta_1=0.2$ also $\beta_2=0.8$, the second setup is $\beta_1=0.5$

in addition $\beta_2=0.5$, the third setup is $\beta_1=0.8$ besides $\beta_2=0.2$. $\beta_2 \beta_1=0.5$ in the first setup.

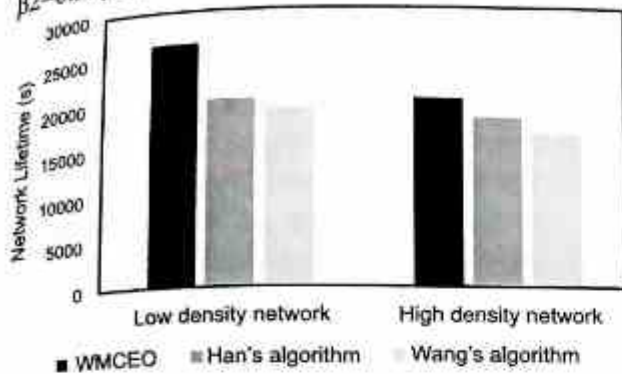


Figure 2. Performance Comparison

Figure 2. Performance Comparison based on the network lifetime. The network life of three distinct algorithms such as WMCEO, Han's algorithm and Wang's algorithm is shown in figure 2. Each allowance factor has various impressions on the efficiency of WMCEO in system life as noted; the even weighting values contribute to greater network life. The corresponding weights ($\beta_1=\beta_2=0.5$) are then allocated to β_1 and β_2 ; this similarly matters for both the remaining energy of the individual CR nodes besides the distance from the current WMC position for maximizing the following CR anchor. Uniform values equal to 0,5 are allocated for all following simulations β_1 and β_2 .

In addition, the specificity of the β_3 and β_4 configurations evaluated in three configurations. It displays the lifespan of the network in three distinct environments. Evaluate the effects of both β_3 and β_4 ; the lifespan of the system is greater. Thus, the remaining energy besides coldness to WMC parameters are allocated equal weights for evaluating the nodes in AN's selection. Uniform values equal to 0.5 are reserved for all following simulations β_3 and β_4 .

In comparison, minimizing the charging time interferes with the time needed to charge nodes and AN parameters' longevity completely. The contribution proportion is evaluated in three configurations with each component (β_5, β_6) where ($\beta_5=0.2, \beta_6=0.8$), ($\beta_5=0.5, \beta_6=0.5$), besides ($\beta_5=0.8, \beta_6=0.2$), each component is analyzed. Figure 5 illustrates the network life of three setups. This results in the higher network activity, as shown, for the span of AN (β_5). β_5 is allocated to 0.2 and β_6 to 0.8 to all following experiments.

Conclusion

This article looks at improving the WMC's travelling and charging trajectory in WRSN as the system is split into moving districts. The suggested WMCEO arrangement considers the remainder of the node energy in each CR as well as the travel time of the WMC problems in the configuration of the moving route of WMC, contributing to better energy efficiencies. In addition, in charge time optimization, which increases the network life, the nodes' residual energy on the other CR's is taken into account. Numerical results confirm WMCEO's function to boost network life and efficiency. We will use more WMCs for persistent network life in future analysis as well.

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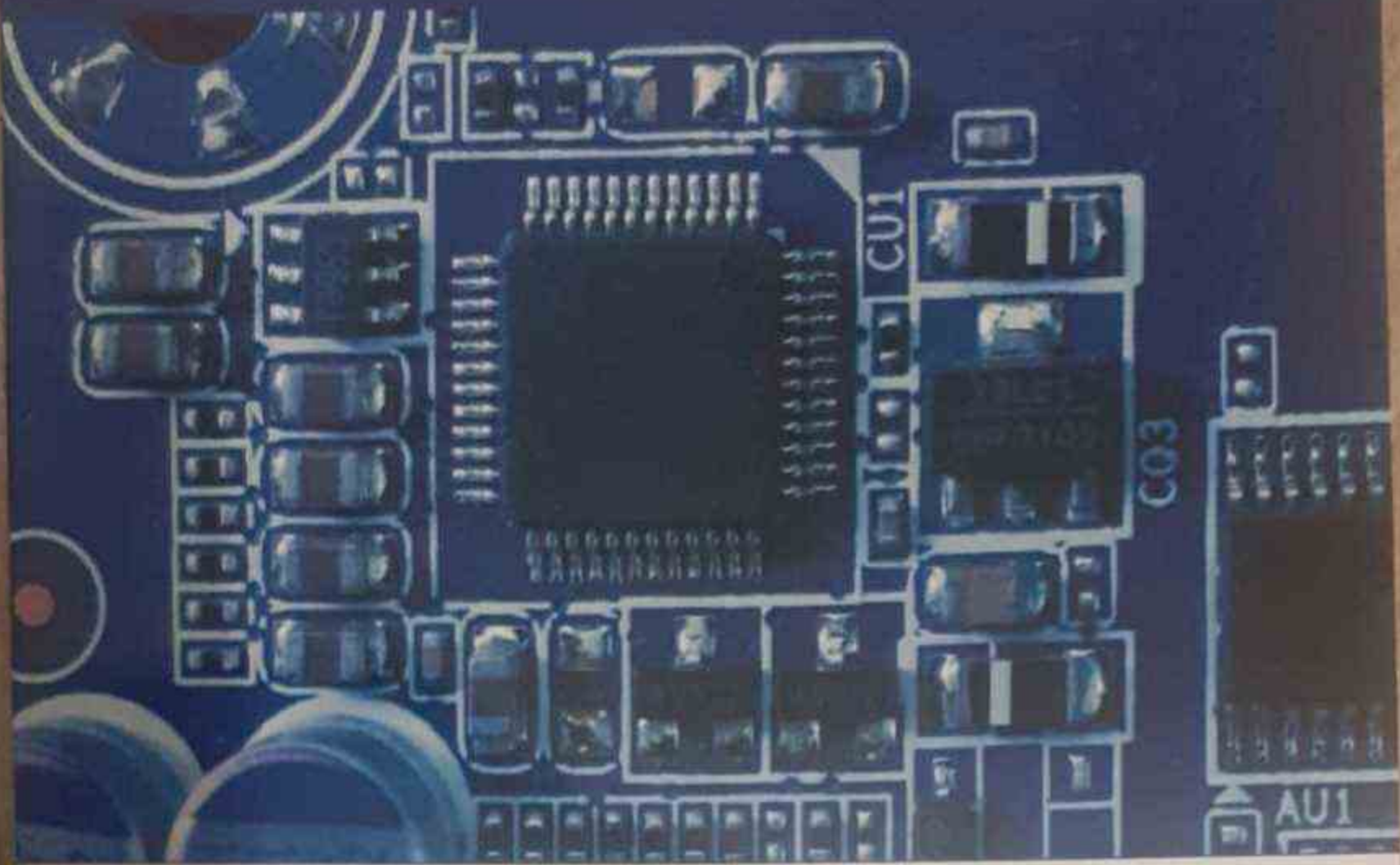
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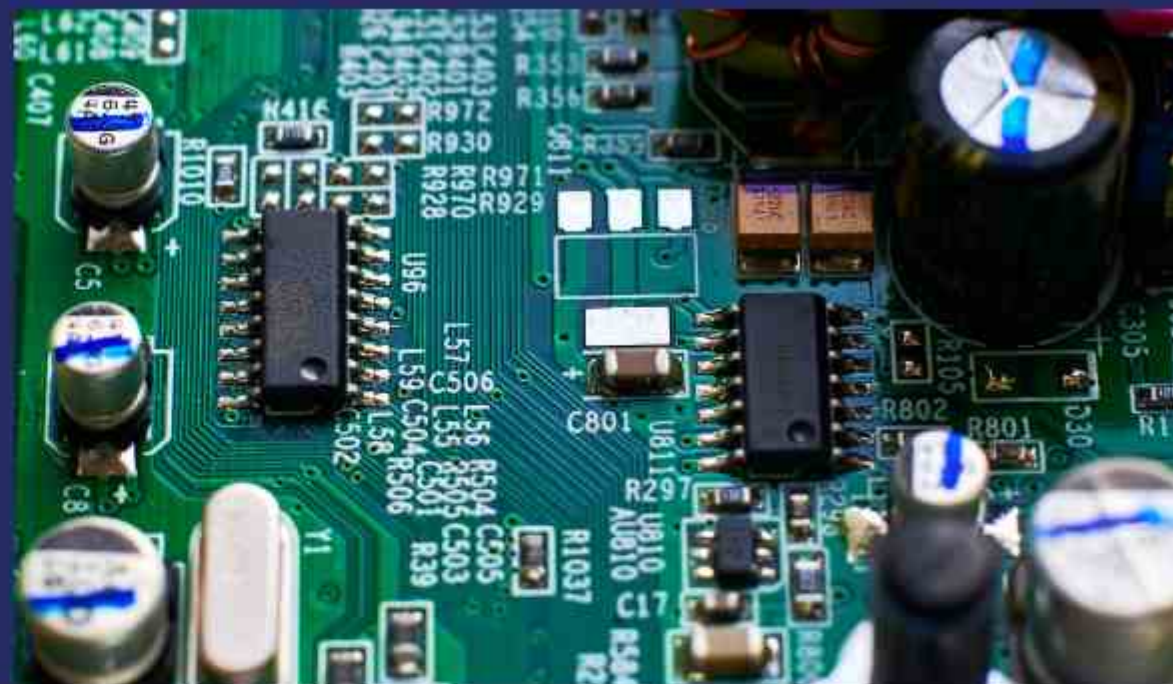
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This book offers a modern treatment of electronic devices and circuits in a systematic manner. Fundamental concepts like analog and digital integrated circuit design as well as operational amplifier theory and its applications have been covered in great detail. Switching regulators and other special electronic devices and circuits are also discussed in this text. Systematic analysis of the underlying principles of semiconductor devices like diodes, optoelectronic devices, MOS transistors, bipolar transistors, and junction field-effect transistors. Amplifier operation, biasing, logic circuits and small-signal models along with numerical examples and simulation results are presented in a lucid manner to encourage better understanding of the subject. Review problems are given at the end of each chapter. The book is suitable for undergraduate students studying in electronics and communication, electrical engineering, instrumentation engineering, computer science and engineering, and information technology branches.



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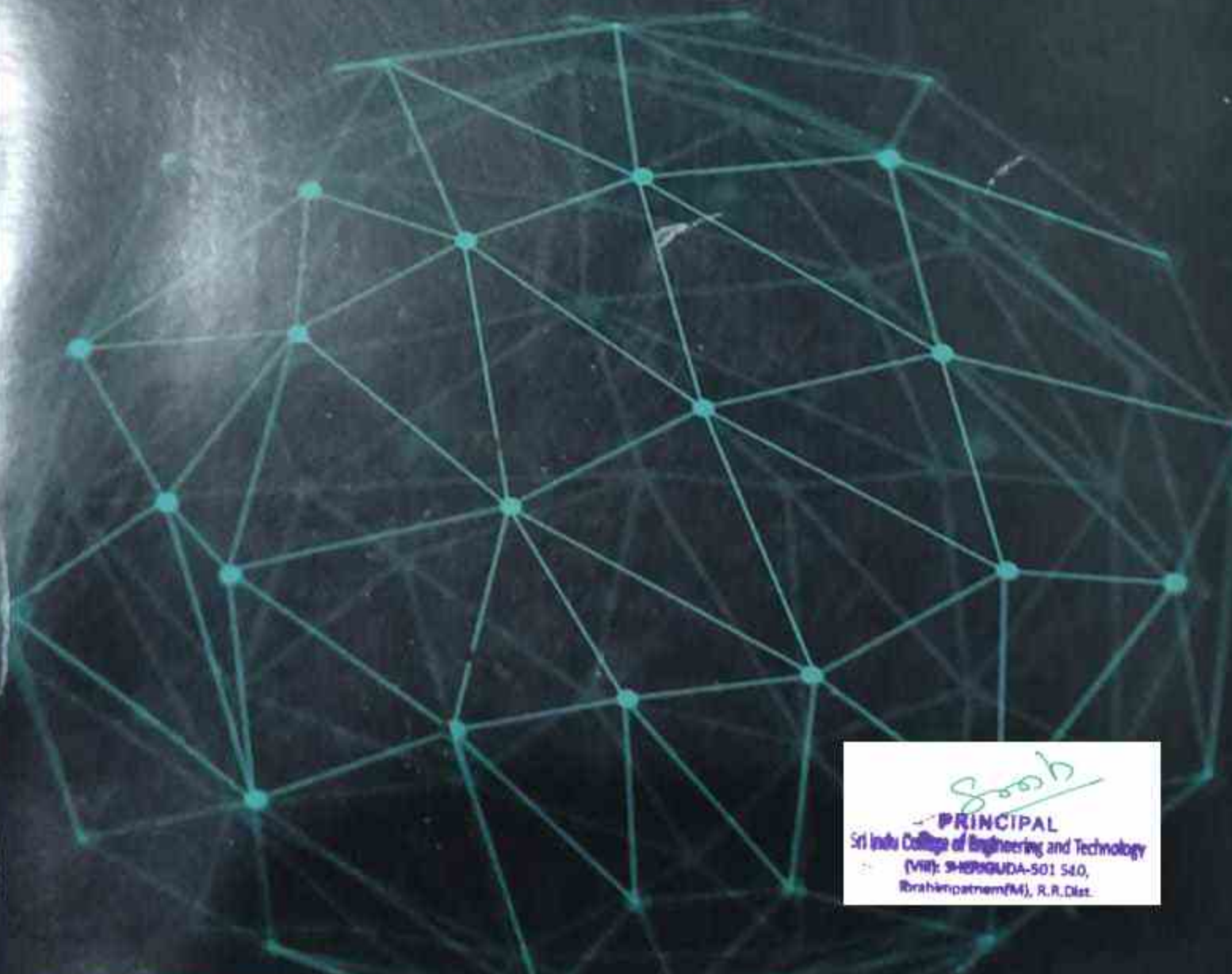
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An Investigation on Tabu Search Algorithms Optimization

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Abstract: Tabu Search is one of the local search methods used for mathematical optimization. Metaheuristics search method. It was founded in 1986 by Fred W. Glover. Developed by Glover and in 1989 Formalized. Local (nearby) searches take a potential solution to a problem and its immediate neighbor Check countries (i.e., similar solutions except for very small details). Improved solution Diagnosis. Local search methods on plateaus where subdivisions or multiple solutions are equally applicable Tend to get entangled. Tabu Search is the local search by relaxing its basic rule Improves performance. First, any moves that get worse with each step Will be accepted if not upgraded (if the search is stuck in a strict local minimum). In addition, obstacles (hereinafter referred to as taboo) prevent the return to previously visited solutions Introduced in the category. The implementation of the tab search, the solutions visited or the user Uses memory systems that describe sets of rules provided. [2] A certain short If the possible solution within the period has been visited before or if it violates a rule, it is Will be referred to as "taboo" (blocked) so that the algorithm does not reconsider that possibility.

1. Introduction

Tabu Search is a metamorphic local search method used for mathematical optimization. Local search The methods have a tendency to become entangled in subdivisions. Already by the rules provided by the user TS enhances the effectiveness of these techniques by blocking visited solutions or others. Teachers have previously used TS to solve MINLPs with the master-slave system. Master Loop TS Handles all integer variables using, and internal rotation is a gradient based method Minimizes every NLP add-on using. TS is a whole integer of so-called candidates Creates an array of number variables. These candidates are one or the other of the current best solution Differ by more than one bit and they are not included in the tab list. NLP sub-problems are solved using a slope based method for each candidate. Of all the new candidates, the one with the best objective value is selected and the next generation Is considered the seed for making candidates.

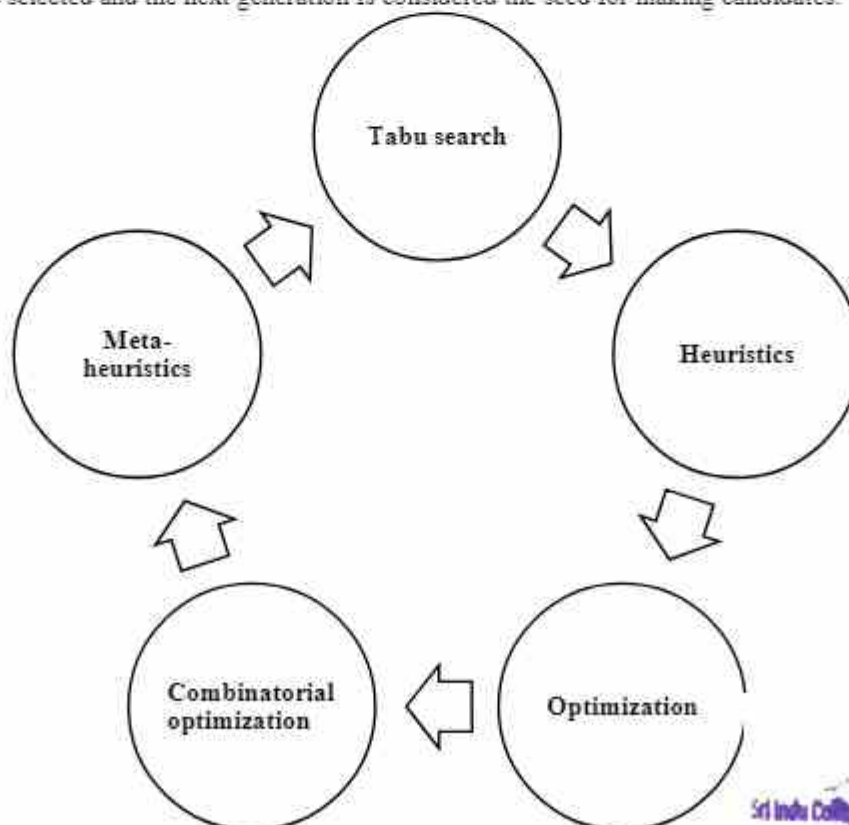


FIGURE1. Tabu search Algorithms.

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To prevent getting caught up in local optimism, to prevent the selection of already visited solutions and their surroundings, a tab list Has been created. A holistic, or heuristic technique is anything that solves a problem Is also the approach, which is a practical method or solutions using various shortcuts Not optimal to create but limited time limit or time limit Enough to give. Optimization is the adjustment of variables used for technical analysis Through is the process of making a trading system more effective. Some transaction costs or risks are expected to be reduced or higher A business system can be improved by targeting assets with income. Combinatorial Optimization is a subfield of mathematical optimization of finite objects Consists of finding an optimal object from the package, where the set of possible solutions Can be separate or reduced to a separate set. Computer Science and Mathematics in optimization, metaheuristic is a high-level process or heuristic (partial search algorithm) Designed to find, create or select one. Limited computational ability. The Metaheuristics model is a subset of solutions Would be too large to be fully calculated or explored.

2. Tabu search

Taboo Search is a meteoritic application of local search methods used for mathematical optimization Is the search method. Local searches take a potential solution to a problem and its immediate neighbors Check in hopes of finding an improved solution. [1] Of course planning issues, in addition to the classical restrictions of priority and time windows Requirements are taken into account. Tap search to find a possible syllabus We describe a new method based on techniques. The purpose of this paper is the length of the course One based on taboo search techniques to deal with non-syllabus scheduling problems Is to propose a new global approach. Must know in advance. [2] Tabu-search-based heuristics descent upgraded as expected, Appendices 1 and See 2. In scenario 1, the well-structured de "nation of ,S (1) (functional representation) Using S variation dominates. A less informed definition of (S (1) (Random Pix) Uses, however the results are not significantly different. For example, with 44 More than 54% of the best solutions were found by functional S in comparison. Random S and S % Was obtained using the mild aspiration criterion in both methods. [3]. To explore the above, minimize distribution loss based on the built-in utility of Tabu Search A system has been developed to determine the optimal allocation and size of DGs. Each and every taboo search to determine the capacity of the DG and to search the location of each DG respectively Used. A brief description of the Tabu search is shown in Appendix 1. [4]. The most commonly used "recent based" memory in tab search is the default rule Is the basis of aspiration, which can be used with little modification to give the shape of the tree search. In the clover as can be seen, the application of the results rules built into the taboo search is consistent with the tree search as a special case Creates shape. In the present case, however, tree searches vary considerably. Then The variation described will, for example, be used in popular methods for integer programming We get a taboo tree search that departs significantly from regular branch and binding tree searches. [5]. Although taboo search for STSP and VRP has been found to be one of the most promising metamorphoses, It appears that no taboo search algorithms have been proposed in the literature for TOP. In this paper, provides integer programming creation for TOP (Section 2) and a Tab Search Heuristic Designed. A step-by-step explanation of this process is given (published Section computational results on test problems are provided (Section 4). Of these computational experiments The results show that the proposed taboo search algorithm for resolving the TOP works better than other published heuristics. On top, [6]. Tabu Search, proposed by Clover, is a meta heuristic method, integrated optimization Used to solve the problem. It has received widespread attention recently. Its apparent control Many amazing successes in solving configuration and NP-difficult issues are quick in its application Caused growth. This varies from local search technique. Tabu Search is a short-term memory Uses, also known as the tabu list, which records and guides the search process. [7]. Tabu search techniques are used to gradually move towards the minimum value of a function. List of prohibited movements to avoid cycling and getting stuck in the local minima Will be updated. Such techniques are suitable for graphic colorization problems. They are 1000 nodes We show you the almost optimal colors of the apps up to, and their Performance has been shown to be significantly higher than popular simulated analgesia.

3. Heuristics

A holistic, technique is any approach to problem solving that is an It is not optimal to create solutions using practical method or various shortcuts but it is enough to give a limited time limit or deadline. Heuristic methods Are flexible and are used for quick results, especially in finding the optimal solution Impossible or impractical and when working with complex data. This cognition Shortcuts play an important role in the behavior economy. Heuristics for making a decision There may be mental shortcuts that ease the cognitive burden. Trial and error, thumb rule or The use of read guess is an example of the use of heuristics. [8]. Solution techniques range from graphical coloring to complex metamorphic algorithms, including LP Formulations and heuristics are tailored to the specific problem. [9]. We discuss several types of identification algorithms that can be classified into three groups: Creative Horistic (Randomized Horistic and Horsepower with a finer degree of control than other Express Editions). Created the algorithm. As far as we know, this is the first time. To solve an identity problem Designed, despite the importance of such issues in solving problems associated with branching and cutting. [10]. Horoscope for solving flow shop planning problem can be divided into two types: sequence generating Horistics and upgrade heuristics. Many heuristics have been developed for the Flow Shop problem, but these two hoists have shown moderately good

performance in previous studies. Early start to get the solution, we consider two heuristics We took: a system due to Nawaz, Encore and Ham (NEH). [11]. Tabu Search (Clover, 1986) is one that aims to overwrite a major search holistic Is meteoritic, and exits the heuristics local optima, other areas of the solution site Helps to explore. The moving heuristics of pMP are particularly well suited to this structure. [12]. To evaluate the performance of our two-phase TS algorithm, the latest LRP in the literature We compare Srivastava's SAV1 algorithm (1993) with one of the heuristics. This algorithm is on the same sheet (SAV2 and CLUST) compares favorably with the other two proposed heuristics. SAV1 Horistic Comparing the two-phase TS algorithm with LRP LRP in the literature begins with the basis for evaluating the effectiveness of heuristics. [13]. Horistics include creative heuristics that try to keep the cost of the solution as low as possible. When gradually creating a viable solution, two-phase heuristics, in which the customer first Possible routes and real routes are created, and in single routes Improving improvement methods. Traveling Salesman Problem (DSP) Horistic application or in many ways by making customer reassignments or transactions. [14] J6rnsten and Nfisberg modify Lagrangean decay boundaries to obtain potential solutions Propose simple heuristics. From a solution that satisfies semi-assignment controls The start was found to be the best holistic. If capacity restrictions are violated, possibilities are restored Another simple transfer process is used [15] Multiple heuristics running times to solve the B-center problem. Programs for all modes in Fortran 77 Coded and compiled by f77-cg89-O4 plenty, it runs on Sun Spark Station 10. For the p-center problem Since there are no benchmark test problems, compare heuristics in the cases that are created We saw. In random, then OR-Lib and TSP-Lib cases, Dedicated to p-Median and Traveling Salesman problems respectively. [16] As a result, optimization methods can be ignored and certain rules known as heuristics Can be implemented, These are good solutions very quickly Are capable of receiving but are not required to provide optimal solutions. [17] Different by changing the set of edges required for service and changing the capacity of the vehicles Problem events were created. Enabling Classical Heuristics, Path Scanning Method and TSA Version 1 Table 9 shows the results of comparison with the solution provided by. Route scanning method is faster, It only takes an average of 0.27 seconds to resolve. However, TSA is 18.5% of the path scanning method Improved the results and took an average of 1021.1 seconds [18]. A set of 40 BHOSLIB (Benchmark with Hidden Best Solutions) events arose from the SAT'04 competition. BHOSLIB events are translated from difficult Random SAT events, and they are theoretical Practically and practically the maximum click algorithms are known to be difficult. BHOSLIB definitions have been widely used in recent literature to test new MCP heuristics. [19]. A set of 40 BHOSLIB (Benchmark with Hidden Best Solutions) events arose from the SAT'04 competition. BHOSLIB events are translated from difficult Random SAT events, and they are theoretical Practically and practically the maximum click algorithms are known to be difficult. BHOSLIB definitions have been widely used in recent literature to test new MCP heuristics. [20]. Comparisons were made with the discrete case and the simple creative process. Two Hornists also have the ability to solve more realistic events than previously thought by other authors with. Our two heuristics can handle different aspects of real life issues, including Includes Time Win Doves, favorite and acceptable berthing areas. Objective function Will easily accept the weighted amount of shipping service hours. Allocation of berthing and quay cranes The integration of issues will be the subject of further study. Med center Container Terminal is its end Plans to integrate our heuristics into the support system.

4. Optimization

Optimization is a business of adjusting variables used for technical analysis Is the process of making the system more effective. Some transaction costs or risks A business that targets assets with a reduction or higher expected return The system can be improved. Optimization is a way to reduce costs or increase efficiency The process of upgrading a portfolio, algorithm or trading system. Reducing risks by, by increasing the expected return or by changing the frequency of the restructuring Portfolios can be improved. Optimization as markets and laws are constantly changing Is a static and ongoing process. Fixed for trading algorithms Optimization is required, both of which fix changing market conditions and programming errors Reduce the risk. To improve a factor There is a risk of over-optimization as other factors may require exchanges. [21] The mathematical nature of this optimization problem, a linear non-mixed integer problem, over the past 25 years Is in the origin of many contributions to the literature. In fact, the perfect optimization for this kind of problem Methods have not been invented, and in the past, classical such as linear and non-linear programming Optimization methods were attempted at the expense of drastic simplifications. [22] Different types of procedures in the technical literature to find the optimal solution to the optimization problem Are proposed as follows. Common to access all possible optimization issues Creating technique is a great situation. [23]. To date, Hu9's only paper dedicated to TS's adaptation to continuous optimization Only we know. But the algorithm proposed by Howe is far from the original TS Is far away. Instead, our aim is to keep it as close as possible to the original simple TS. The sheet follows Organized. In Section 2, we will deal with the adaptation of TS for continuous functional improvement. [24] Tab Search is an optimization used to solve combinatorial optimization problems Is the technique. This method was introduced by Clover. [25]. Of the incorrectly defined nature of optimization problems and the weakness of mathematical approaches Due to the increasing interest in meta-holistic search, moreover, optimization issues are differentiated There is no need to meet strict requirements. It has the same advantages as real world applications, since an example to solve a problem in the signal system is to improve the indistinguishable system by the way we usually end [26]. The sum of the square error (SSE) used for optimization and the forecast error Basically the networks were compared. Six hidden for all problems in each network Covers nodes. A pronoun was used for both the input

and the hidden layers, so a total of 25 weights for problems 14 and 19 weights for problem is best for problems given Network configurations may be, but since we are comparing optimization methods, we have chosen a common architecture. [27]. This creation has no shape control and can be upgraded to its centroid-to-centroid distance measurement Can cause unreal form fields. All to control the patterns of Tate and Smith (1995) They extended the problem by adding a maximum rate (MAR) to the sectors. Similarly, Coyote et al. (1996) Establish a minimum-side-length (MSL) barrier for each port. [28]. These strategies can be specified in terms of a term optimization. These two main procedures are as follows Have been explained. This is a multi-search process of optimization in taboo search. Intensification of TS and Strategies in diversification practices are proposed to accelerate integration in multidisciplinary. [29]. In combinatorial optimization, the best example of such a common technique is GRASP, which has many Successfully applied to optimization problems, for example, to the quadratic allocation problem. Different to obtain a set of solutions, the creative phase of GRASP involves some elements of randomization. [30]. The definition of POP in multiobjective optimization is that of efficient set of efficient points "Connected" by a curve inside. Features of Multiobjective Optimization to handle, we have changed the role of Refused. In particular, the solution quality p takes into account the objective functions I_s measured and the solution diversity is measured at the objective-functional space. Standard (single- Purpose) In the scatter-search framework, diversity is usually measured at the solution location. However, in multidisciplinary optimization, the concept of diversity is related to the ability to find solutions that cover the boundaries of efficiency. [31] It has been proven to be effective in solving various integrated optimization problems. Two different Implemented continuous form in forms (CTSSsingle, CTSSmultiple) called Simplex Search (CTSS) Our algorithm is made up of two steps: first, the adaptation of the TSto series optimization issues, Allows localization. A "hopeful area"; Later, intensification within this hopeful area, SS was involved. [32] Monte-Carlo on current holistic approaches to solving global optimization problems Methods (MCs), multi-level random search methods, adaptive simulated annealing and genetic Includes algorithms, clustering methods, taboo search, etc. As Multi-Level Tab Search (MLTS) Developed to solve so-called, global optimization problems successfully Used. The recently proposed variable neighborhood search (VNS) in this paper Metaheuristics was first used for consecutive minimum-maximum global optimization problems. [33] Basic variable for the first time for consecutive minimum-maximum global optimization problems Neighbor country search (VNS) hubristic is used, NP- arising from a set of radar polyphaser codes This method is being tested in a class of hard global optimization issues, which is already through tabu search Successfully treated. Calculation results show that on average VNS outperforms taboo search. [34] Implemented by Su used in this study. These Fortran codes are UNIX Compiled with f77 compile rat optimization level 3 under the operating system [35] Tabu Search (TS) is a metaheuristic originally developed by Glover, with a variety of integrations Used successfully for optimization problems. However, with respect to continuous variables Very few works dealing with its application to the global reduction of functions. Until now, the lesson We only know related works. In this paper, directly from Glover's approach We propose TS's adaptation to a series of optimization issues known as inspired Advanced Continuous Tab Search (ECTS).

5. Combinatorial optimization

Combinatorial optimization is a subfield of mathematical optimization that is limited Consists of finding an optimal object from the set of objects, where possible solutions The package can be separate or reduced to a separate package. Regular combinatorial Optimization Problems Traveling Salesman Problem ("DSP"), Minimum Spanning Tree Problem ("MSD") and the Knopf problem. In many issues, as mentioned earlier, use a thorough search No, so special algorithms or approximations that quickly dismiss large areas of search space Resort to algorithms. Integrated optimization is functional research, algorithm theory and Related to the theory of computational complexity. Artificial intelligence, machine learning, cardamom It has important applications in many fields, including theory, software engineering, applied mathematics, and theoretical computer science. [36] Various in the technical literature, in order to find the optimal solution to the integrated optimization problem Techniques are constantly proposed. Very efficient at dealing with large optimization issues One of the heuristics is certainly the taboo search technique (abbreviated TS) recommended by Glover for a particular application [37] It is very comprehensive for treating difficult problems such as transmission expansion planning Is an integrated optimization technique. This method includes Horistic Search, Simulated Annealing and Includes features of various approaches such as genetic algorithms. All examined in test cases, the new generation, loaded with the existing main network There are sites: such connections may require more than one line, transformer addition, which complicates the problem [38] Taboo Search is a high-level hubristic algorithm for solving integrated optimization problems. It starts with any initial solution and is the best It is a restructuring development process that seeks to determine the solution. TS was proposed in its current form a few years ago. It is now Installed optimization has become the norm, which spreads rapidly to many new ends. Others like GA, TS Horizontal search algorithms have been isolated as "very promising for future treatment of practical applications". [39] The schedule problem described in the previous section is for the integrated optimization problem in the following sense Will be integrated. One that gives an unacceptable amount of a schedule T Let us define the function $f(T)$. The principle of our approach is to look for the T^* schedule Contains, which reduces the value of f in the X set of all possible timetables. In other words, the problem to be solved takes shape. [40] End users of Combinatorial Optimization algorithms in solving tasks with minimal time and effort Are interested. It is difficult to estimate the total effort, but of course it is the parameters in the correct order Includes contributions to the organization. Of the following, CPU time is limited in our opinion Exists and we

answer the following question: Which algorithm is expected to provide the best performance if the same CPU time is allocated. [41] Through the performance number examples of the TS method to solve the integrated optimization problem of the capacitor deposit Has been proven. In our experience, control parameters of the TS, e.g., tab list size, search Ambient reduction rate and frequency counter threshold are easily tuned into the solution process Are done. When the results of TS are compared with SA, the proposed solution method is capacitor Whether it is possible to provide an almost optimal solution to the deposit problem within less estimated time Reveals. Capacitor deposit problem and other integrated optimization in power systems Future potential practical applications of the proposed TS-based method for problems are encouraged. [42] In particular, the proposed algorithm seeks new solutions to 69 experimental problems that appear in the literature Found. Good at a reasonable time using the reusable taboo search algorithm provided The amount of problem cases for which solutions can be obtained reaches 5000 variables. Many of the similar policies are difficult We hope that the combination optimization can be used successfully to develop practical guidelines for problems. [43] As mentioned in exile, the Presented ETS system in Beep is well suited for other integrated optimization issues. ETS-type Algorithms create a growing frame work in computer programming that will be more sophisticated in the future. The mechanisms will be challenged. New adaptations and polishes of the original idea are currently under study. [44]. Numerous studies have been used to solve metaheuristics, especially simulated analgesics, integrated optimization problems involving multiple objectives. Consider. Nevertheless, some works are dedicated to taboo search approaches. In this paper, the good of the set of Barret-optimal (efficient) solutions to create approximations, we provide a hubristic one based on Tabu search principles. [45]. For metaheuristic methods that can be used for combinatorial optimization problems Parallel designs are attractive because they achieve the best solution quality and the best solution May provide both reducing running time. The recurrence of metamorphic patterns and the complexity of the solution, characteristic of the many problems used in metamorphosis, makes parallel use an attractive alternative.

6. Meta-heuristics

In computer science and mathematical optimization, meteoritic is a high-level process or Designed to find, create or select a Horistic (area search algorithm). Limited computational ability. Metaheuristics model to fully calculate the subgroup of solutions or Would be too large to explore. Metaheuristics make some assumptions relatively Upgrade can solve the problem and can be used for various problems. [46]. In recent years, there has been a growing interest in metamorphosis in the optimization community. Tabu Search (TS) Refers to the popular class of metaheuristics. However, the genetic algorithm and Continuous, compared to other metamorphosis such as simulated analgesia The contributions of TS to dealing with problems are even less. [47] In single-objective optimization, diversity is measured with solution space (i.e., different Diversity increases when solutions with structural properties are included in the reference package), whereas The purpose of multipurpose metamorphosis is to find different solutions. Objective function location. Most multipurpose-programming techniques in finding a set of efficient points for a given problem Focus on E or, in the case of hubristic practices, the efficient set Approximate E . In this paper, $f_i(x)$ is the linear function for $i = 1, \dots, p$ and x is the continuous and Are finite variables. Because our approach is not precise, our goal is the best Searching E . Metaheuristics has been used for this problem, so our proposed Before discussing the process, we review the approaches appropriate to our current investigations [48] However, it can easily get caught up in the local minimum. In recent years, meta- Heuristics has been studied to solve an integrated optimization problem. Global as a functional method that uses horistics to obtain a rough approximate solution They are defined. Simulated Annealing (SA) [Low], Genetic Algorithm (GA) [LL] and Tab Search (DS) are included in conventional metamorphosis. SA for restructuring of distribution systems and GA was used, SA is equivalent to the annealing process of a hot bath of metal and The solution is enhanced by a cooling parameter called temperature. GA is the natural selection of biology Based on. GA using genetic functions such as reproduction, cross-breeding, and mutation Improving the solution. Also, getting more accurate solutions and reducing the calculation time with that in mind, SA and GA have developed parallel SA (PSA) and parallel GA (PGA), respectively.

7. Conclusion

Tabu Search is one of the local search methods used for mathematical optimization Metaheuristics search method. It was founded in 1986 by Fred W. Developed by Clover and in 1989 Formalized. A hubristic or hubristic technique is anything that solves a problem The approach is to optimize solutions using a practical method or various shortcuts Without but will suffice. Given a limited time limit or deadline. Horistics The methods are flexible and used for quick results, especially when it is impossible or impractical to find an optimal solution and when working with complex data. Optimization is the process of adjusting the variables used for a technology to make the most of a trading system Is an effective conversion process. Analysis. By reducing some transaction costs or risks or with higher expected returns A business system can be improved by targeting assets. Optimization is a portfolio that minimizes costs or enhances performance. Is the process of upgrading an algorithm or trading system? By reducing the risks, or by increasing the expected return Portfolios can be improved by changing the frequency of restructuring. Combinatorial optimization is an adjunct to mathematical optimization Field, which consists of finding an optimal object from a set of finite objects, where a set of possible solutions Can be separate or reduced to a separate set. Typical Combinatorial Optimization Problems Traveling Salesman Problem ("DSP"), Minimum Spanning

Tree Problem ("MST") and Knopf Problem. In computer science and mathematical optimization, metaheuristic is a to find, create or develop a high-level process or heuristic (area search algorithm) Designed to select. Limited computational ability.

Reference

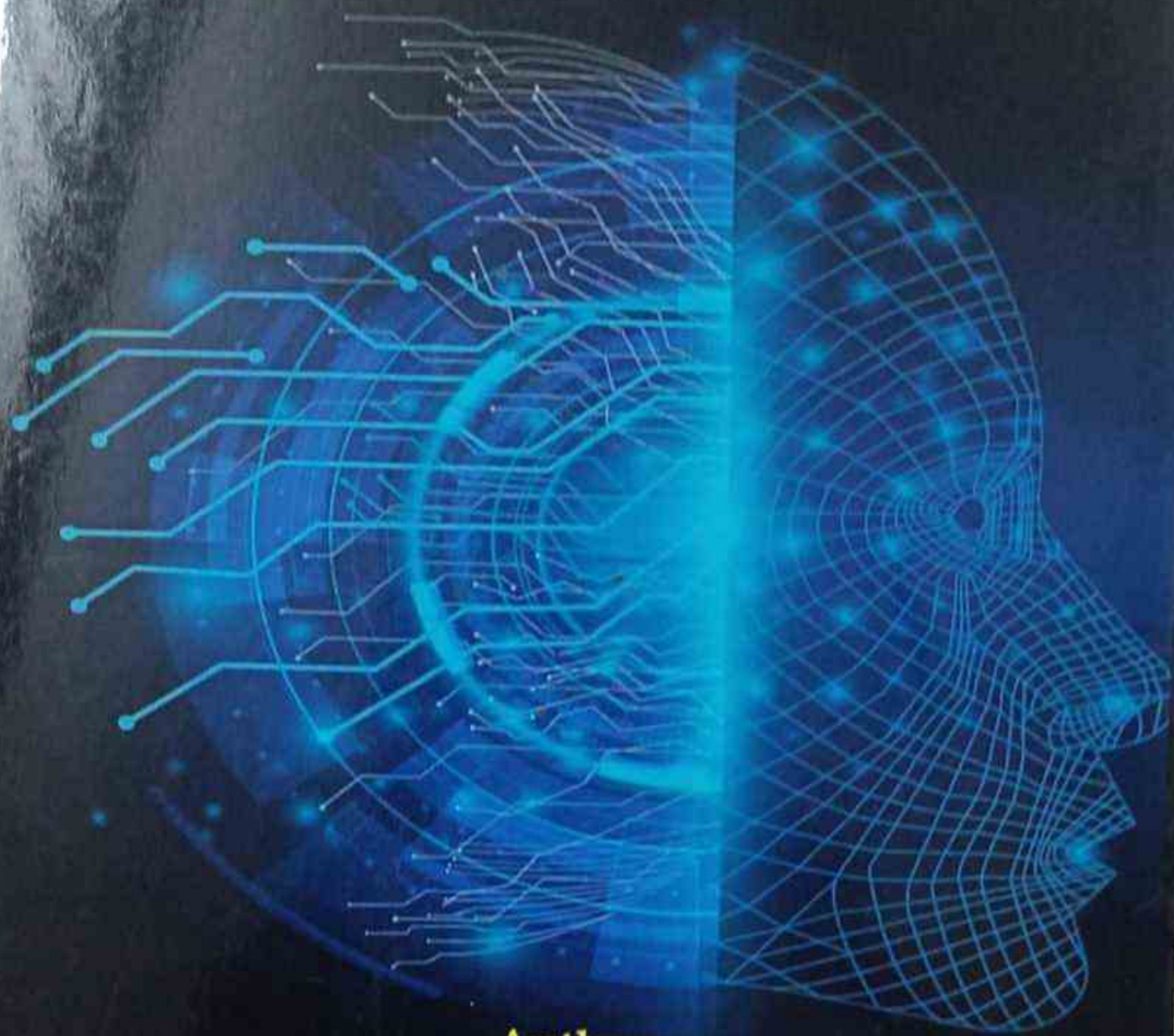
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Introduction of
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PREFACE

This book aims to provide a broad INTRODUCTION OF BLOCKCHAIN TECHNOLOGY for its importance in various engineering fields. The book goes explains the fundamentals of this subject.

It provides a logical method of explaining various complicated concepts and stepwise methods to explain important topics. Each chapter is well supported with the necessary illustrations. All the chapters in the book are arranged in a proper sequence that permits each topic to build upon earlier studies.

As it an important research area, the techniques developed in this area so far require to be summarized appropriately. In this book, the fundamental theories of these techniques are introduced. Particularly, the functions required in image processing techniques are introduced.

The brief content of this book is as follows:

CHAPTER 1	BASICS OF DISTRIBUTED SYSTEMS
CHAPTER 2	CRYPTOGRAPHY
CHAPTER 3	BLOCKCHAIN
CHAPTER 4	DISTRIBUTED CONSENSUS
CHAPTER 5	CRYPTOCURRENCY
CHAPTER 6	BITCOIN
CHAPTER 7	ETHEREUM
CHAPTER 8	SOLIDITY PROGRAMMING
CHAPTER 9	BLOCKCHAIN APPLICATIONS

INTRODUCTION OF BLOCKCHAIN TECHNOLOGY

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**IDENTIFICATION AND CLASSIFICATION
OF THE REUSABLE SOFTWARE COMPONENTS
USING EQUIVALENCY METRIC**

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Identification and Classification of the Reusable Software Components using Equivalency Metric

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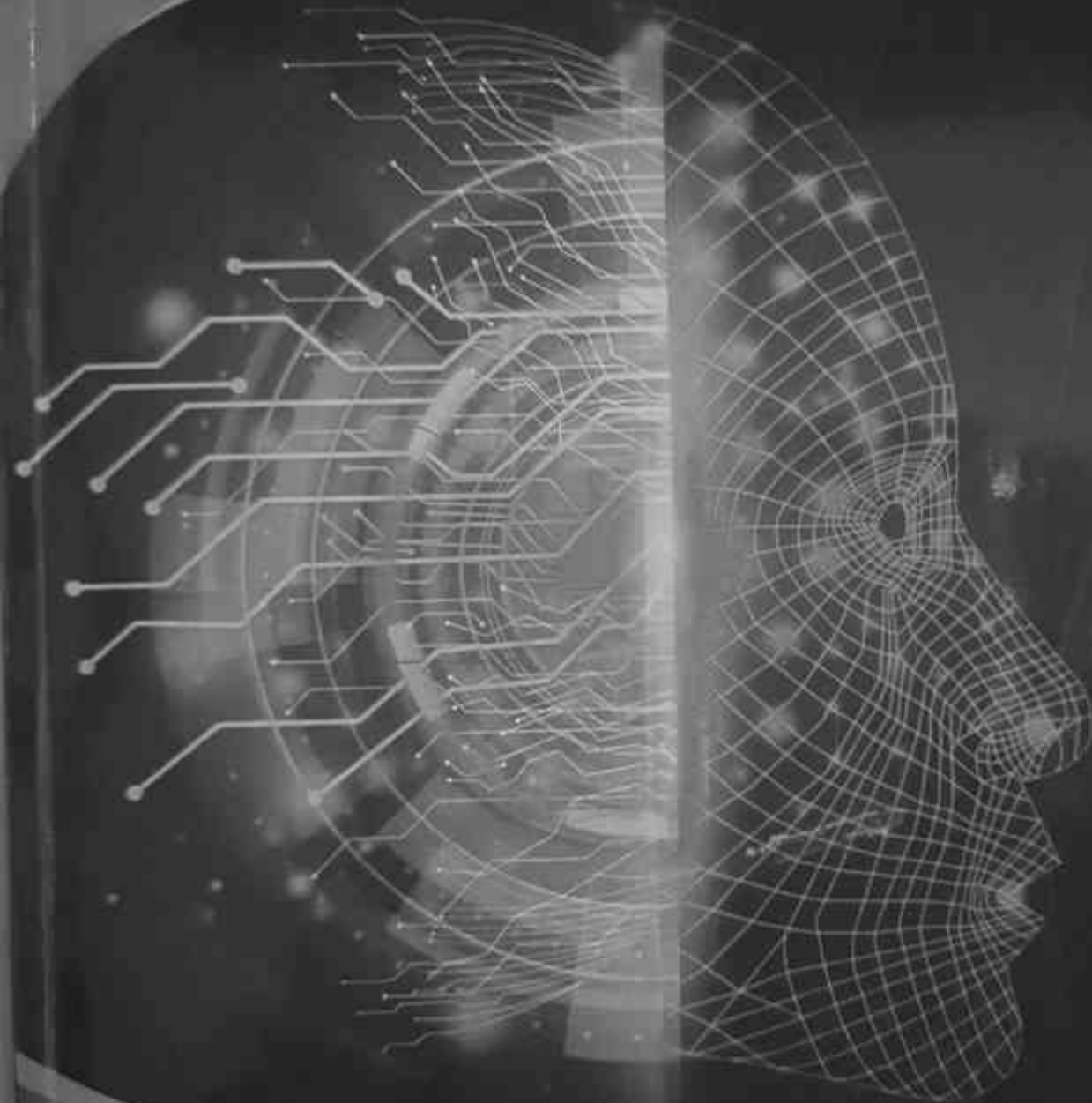
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NOVEL TECHNIQUES FOR RECORDS MATCHING PROCESS AND DE-DUPLICATION USING ROUGH SETS



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Novel Techniques for Records Matching Process and De-Duplication using Rough Sets

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Cloud Computing with Wireless Network and Pattern Recognition

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Cloud Computing with Wireless Network and Pattern Recognition

By

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Preface

This book, which is a collection of papers on the emerging topics on Cloud computing, Wireless network & pattern recognition comprises about 23 papers on all the current topics, which a researcher would like to delve. Starting with the application of Block chain system in smart devices to AI's application in Game strategies has been presented. Another current topic which turns the world today to depend on deep learning technique is intelligent video surveillance. All the topics presented are balanced with the facts.

We, as Editors and our valued colleagues who acted as Associated Editors for this book have taken every special care to check the facts and accuracy of the material presented. However, there might be a possibility for some errors which may have crept in. The readers are requested to mail / suggest/ advise us of such errors, which we may take up seriously and rectify.

June 25, 2021
Chennai

Dr. T.R. Ganesh Babu
Dr. P.S. Ramapraba
Dr. K. Lakshmi Narayanan



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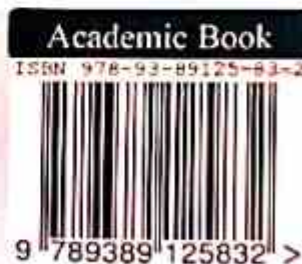
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