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Gat No. 237, Pune Bangalore Highway, Dhangawadi, Tal – Bhor, Dist- Pune(Maharashtra)

## **Criteria 3: Research, Innovations and Extension**

### **Key Indicator – 3.3 Research Publications and Awards**

**3.3.4 Number of research papers per teacher in the Journals notified on UGC website during the last five years (10)**

<b>Year</b>	<b>2017-18</b>	<b>2016-17</b>	<b>2015-16</b>	<b>2014-15</b>	<b>2013-14</b>
<b>Numbers</b>	09	04	10	03	03



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Rajgad Dnyanpeeth's

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Implementation of Image Fusion Techniques for Remote Sensing Application	Prof. S. I. Nipanikar	E&TC Engineering	International Journal of Emerging Technology and Advanced Engineering	2015-16	ISSN :2250-2459
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Automatic wheelchair for physically disabled persons	Prof. R. S. Nipanikar	E&TC Engineering	International Journal of Advanced Research in Electronics and Communication Engineering	2013-14	ISSN:2278-909X

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<b>Broad Subject Category:</b>	Science

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In the authors' previous work, the embedding and extraction process was done based on the cost estimation matrix. To enhance the security throughout the communication system, the novel wavelet-based embedding and extraction process is applied to the OFDM system in this paper. The idea behind this method is to attain a higher imperceptibility and robustness of the image.

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## ORIGINAL ARTICLE

# A sparse representation based image steganography using Particle Swarm Optimization and wavelet transform

S.I. Nipanikar<sup>a,\*</sup>, V. Hima Deepthi<sup>a</sup>, Nikita Kulkarni<sup>b</sup>

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## KEYWORDS

DWT;  
Image steganography;  
IDWT;  
PSNR;  
MSE

**Abstract** With the growth of information technology, information security is a major concern in the interactive environment, where there is no security for the messages send to and from the receiver. A technology named image steganography has been employed that ensures security to the covert communication and safeguarding the information. Image steganography hides the secret message in any of the recipient images and sends the secret message such that the message is visible only to the sender and the receiver. This paper proposes a method for image steganography using sparse representation, and an algorithm named Particle Swarm Optimization (PSO) algorithm for effective selection of the pixels for the purpose of embedding the secret audio signal in the image. PSO-based pixel selection procedure uses a fitness function that depends on the cost function. Cost function calculates the edge, entropy, and intensity of the pixel for evaluating fitness. Simulation has been done and comparison of the PSO with the other existing methods in terms of Peak-Signal-to-Noise-Ratio (PSNR) and Mean Square Error (MSE) determines the proposed PSO, as an effective method. The proposed method achieved a better PSNR and MSE values of 47.6 dB and 0.75 respectively.

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## 1. Introduction

Over the past few years, Stenography is a widely growing concept in all fields, and its applications have extended from the limited environment to the extensive environment. Stenography is an art and science that deals with information hiding

and in the beginning only images has been employed as the steganographic covers but, now it is extended to all multimedia, such as audio, video, and text files [10]. The utmost aim of steganography is that it is capable of hiding a message in any audio or video data. The interesting fact is that the presence of these hidden data is indistinguishable from a person in such a way that an eavesdropper finds a tough way even to identify the presence of hidden data [16]. Steganography provides a new solution using a sensitive approach providing protection to the covert communication between the trusted parties. Thus, digital steganography makes the information

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3605	64769	International Journal of Engineering Research in Computer Science and Engineering	Univ	Science	23942320			IFERP	Reject:Low Score
3606	64771	INDIAN JOURNAL OF APPLIED MICROBIOLOGY	Univ	Science	2454289X			indian Association of Applied Microbiologists (IAAM)	Reject:Low Score
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3617	64803	Kantha Sampada	Univ	Arts & Hun	23495901			N S Patel Arts College, Anand	Reject:Low Score

# Vehicle Location Tracking and Control using Secured Wireless Networks

<sup>[1]</sup> Mukund B Wagh, <sup>[2]</sup> Dr. N. Gomathi

<sup>[1]</sup> Associate Professor, RDTTC, Shri Chhatrapati Shivajiraje College of Engineering, Pune.

<sup>[2]</sup> Pofessor, VelTech Dr. RR and Dr. SR University, Avadi, Chennai

**Abstract:** - Now a days, automobile thefts are great concern increasing at an alarming rate all over the world. Increasing the density of vehicles creates a problem in large number security of vehicle. Solution to this problem new approach is developed for providing security to vehicle by developing secured vehicle management system for control and tracking. In this system the user will control his vehicle through an android application. A secured mode of communication between Smartphone and vehicle is established via GSM network where authentication is done before establishing communication. Using Smartphone, the owner will be able to lock/unlock the vehicle and track the vehicle in case of theft. If the GSM network is not available then the secured Bluetooth mode is used for communication. The performance of the proposed scheme is evaluated on the metrics such as end to end communication between user and vehicle.

**Index Terms**— Global Positioning System, Subscriber Identity Module, GSM network, Bluetooth.

## I. INTRODUCTION

Vehicles are expensive other than a house, perhaps, few purchases will compare to a new vehicle. In order to this just like any other expensive asset, a vehicle brings with it a secondary cost, the risk of theft. In some laid-back parts of the world, locking the doors may be enough to ward off the threat. Everywhere else, it's a good idea to arm yourself, and your vehicle, with some security. In these days, automobile thefts are increasing rapidly all over the world. So to escape from these thieves most of the vehicle owners have started using the theft control systems.

The aim is to provide a user an innovative way to control (lock, unlock) and track vehicle through the secured wireless networks so that owner can access vehicle via Smartphone and to develop a database management system for RTO officials so that, work of RTO documentation becomes paperless. The system focuses on development of vehicle locking and tracking system. With this, the owner will be able to have secured communication between owner's phone and the vehicle via wireless network viz. GSM network and Bluetooth. In the network mode, the owner can access the vehicle from anywhere using web based technology. If this network mode is not available then system uses Bluetooth as alternative for which user needs to be in Bluetooth range to connect the vehicle. The system will include a module with microcontroller installed in the vehicle which will communicate with Smartphone application through GSM network and depending upon the command received from

the Smartphone app, the device in the car will respond and act accordingly. To enforce the security, the system will comprise of central cloud storage where the authentication will be done before granting the access of car to its owner. Plus, when data network is not available, there will be availability of Bluetooth as an alternative way to establish the communication.

## II. LITERATURE REVIEW

### 2.1 Existing System

In 2012 Dhotre et al [2] using GPS (global positioning), it is possible to get the location of the vehicle. So, we can track the vehicle using this technique. In 2011 Jayanta et al [3] the ignition locking from remote place by using cell phone is possible. This can be used as antitheft or theft prevention.

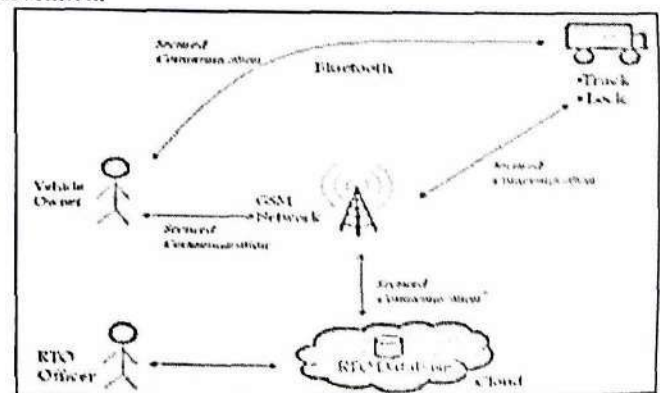


Fig 3.1 Overview of System

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<b>Country of Publication:</b>	India
<b>Broad Subject Category:</b>	Science

| Print

## GLOBAL JOURNAL OF ENGINEERING SCIENCE AND RESEARCHES SLA AND IDLE SERVER MONITORING ALGORITHM WITH FEEDBACK IN QOS LOAD BALANCING

**Sana J. Shaikh\***

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### ABSTRACT

The scheduling algorithm plays vital role in day-today life. The load balancer can map task to resource that based on some particular objectives. The main objectives of load balancing is resource utilization and task completion. Cluster formation is done based on properties and processing power of server and assign task to first phase. In First phase, Service Level Agreement (SLA) algorithm determines priority of tasks, cost estimation and assign task to the respective cluster to second phase. In second phase, the Idle-server monitoring algorithm applies to check server is idle or not and result is forwarded to third phase which check whether task is get processed or not and reassignment of task will be done and analyze the result. The main aim is to understand the processing power and number of tasks are going to be processed by server to maximize throughput. This paper shows that maximum throughput by introducing Quality-of-Service in cloud environment.

*Keywords: Cloud computing, Quality of Service, Load balancing scheduling techniques, Load balancing algorithm*

### I. INTRODUCTION

The cloud load balancing is one type of load balancing method that is performed in cloud computing environment. Load balancing is process of distributing or dividing workloads across multiple computing system or resources. A load balancing reduces cost and maximizes availability of resources which is associated with document management systems. In order to suit user requirements, it uses a precise method to map the tasks to appropriate cloud resources, though by default maximum strategies are static in nature [6].

Whenever cluster formation is done then the cluster of server should be session-aware, so that any client connect to any cluster of servers at any time , the user gets unpredicted experience.[10] This is usually achieved with in-memory database or shared database. In distributed resources, scheduling problem is process that maps and manages the implementation of independent tasks. In order to meet the users specific need, process can provide appropriate resources to ensure that the workflow can be successfully completed.[6] Cloud Computing is state which gives proper and on-demand network access to shared pool of computing resources like network, storage, servers and services that are to be rapidly released with the efficient way in minimum management.[7]

At present, cloud computing is suffering from some challenges like security, QoS, Power Consumption and Load Balancing etc. Currently, as there is an increase in technology and consumer demands, there is excessive workload which calls for the need of the load balancer.[6] To balance the task properly the task should be get prioritize so that the tasks can be handled properly. The priority of task is depend upon the processing power of ant server or system. The processing power is calculated depend upon the hardware configuration such as input and output functionalities of system[6] [7].

The concept of balancing the load on the server on cloud has an important effect on performance. [10] The uneven distribution of load among the servers result in server overloading and may lead to crashing of servers. This degrades the performance of server. Load balancing is technique that distributes the load equally among the servers which avoid the overloading of server, server crashes and performance degrades. Load Balancing is an important factor that good response time, effective resource utilization. Thus the effective load balancing is needed.[6][ 10]

### II. RELATED WORK

This section describes the related work of QoS scheduling algorithm[6] in cloud environment. The main challenge of cloud computing is distribution of work load in well balanced manner. So the distribution should be done among the different nodes so that resources should be properly utilized. To optimize this problem, good load balancer

4015	47251	TIME'S JOURNEY	Univ	Social Scier	22786546			Institute of Management Study, South 24 Parganas, kolkata	Reject:First Criteria
4016	62752	Journal of Computational Engineering	Univ	Science	23567260			Hindawi Publishing Corporation	Reject:First Criteria
4017	62762	Oceanographic Literature Review	Univ	Science	09670653			Elsevier	Reject:First Criteria
4018	62773	Procedia Earth and Planetary Science	Univ	Science	18785220			Elsevier	Reject:First Criteria
4019	64047	The Journal of Accounting and Finance	Univ	Social Scier	09709029			Research Development Association, Jaipur	Reject:First Criteria
4020	47721	International Journal of Advance Research In Science & Engineering	Univ	Science	23198346	23198354		A R Research publication	Reject:First Criteria
4021	45435	International Journal Of Advanced Studies In Computer Science And Engineering(IJASCSE)	Univ	Science	22787917			International association of Academicians, Scholars, Scientists & Engineers	Reject:First Criteria
4022	48243	International Journal of Advances in Remote Sensing & GIS	Univ	Science	22779450			IPA, India	Reject:First Criteria
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4030	64023	Advances in Social Work	Univ	Arts & Hum	15278565	23314125		Spring	Reject:First Criteria
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4032	43988	American Journal of Sports Science and Medicine	Univ	Science	23334592	23334606		Science and Education Publishing Co. Ltd	Reject:First Criteria



## PUSHOVER ANALYSIS BY USING X-BRACING AT DIFFERENT LOCATION IN RC BUILDING

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### ABSTRACT

Earthquake is the sudden movement of tectonic plates in the earth's crust. An earthquake that releases energy in the form of waves that travel through the earth's crust and cause the shaking of the ground. They can cause large scale loss of life and property and disrupts essential services such as Water Supply, Sewerage systems, Communication and power, Transport etc. and destroy villages, towns and cities but the aftermath leads to destabilization of the economic and social structure of the nation. The result in damage to the structures, hence we need to design the buildings to withstand these earthquakes. Pushover analysis has been the preferred method for seismic performance evaluation due to its simplicity.

In this paper, G+9 RC building is modeled and analyzed by using X-bracing at different location. The computer aided analysis is done by using SAP2000 to find out the effective lateral load system during earthquake in high seismic areas. The structure has been evaluated using Pushover Analysis, a non-linear static procedure, which may be considered as a series of static analysis carried out to develop a pushover curve for the building. The main aim of this study is that the performance of the building is evaluated in terms of Lateral displacement and Base shear (Pushover or capacity curve). In the present study, seven model of bracing at different location has been analyzed by using pushover analysis. It shows the behaviour of the components and failure mechanism in a building. The various parameter and guidelines are used from as per IS 1893:2002 (part-1) and IS 13920-1993.

**Keyword:** Pushover curve (Base shear Vs Displacement), Different location of X-bracing.

1347	63155	Int. J. Advanced Networking and Applications	Univ	Science	12915211			Eswar Publications	Reject:Primary Criteria
1348	63157	VIKRAMSHILA JOURNAL OF SOCIAL SCIENCES	Univ	Social Scier	09731237			VIKRAMSHILA RESEARCH INSTITUTE	Reject:Primary Criteria
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1356	63178	Inquiry: An Educational Journal	Univ	Multidiscip	09748997			Institute of Advanced Studies in Education, Srinagar	Reject:Primary Criteria
1357	63180	Tadrees Nama	Univ	Arts & Hun	23206624			Anjuman Froghe Istedad Urdu asataza, Jamia Millia Islamia, New Delhi	Reject:Primary Criteria
1358	63187	SHODHA	Univ	Arts & Hun	22490996			HA MA NA RESEARCH CENTER UJIRE	Reject:Primary Criteria
1359	63188	Journal for Advanced Research in Applied Sciences	Univ	Science	2394844			S S Publications	Reject:Primary Criteria
1360	63189	International Journal of Development Studies and Research	Univ	Social Scier	2278&€"865			VLMS	Reject:Primary Criteria
1361	63190	LOKAJNANA	Univ	Arts & Hun	2321001X			PRASARANG THUMAKURU UNIVERSITY	Reject:Primary Criteria
1362	63195	Dharam Adhyan Patrika	Univ	Arts & Hun	23939753			Guru Nanak Dev University, Amritsar	Reject:Primary Criteria
1363	63197	Scientific Review	Univ	Science	24138835	24122599		ARPG Publishing	Reject:Primary Criteria

## “Identification of Diseases in Cotton Plant Leaf using Support Vector Machine”

**Jyoti, J. Bandal**

RDTC, SCSCOE, Dhangwadi

bandal864@gmail.com

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**ABSTRACT:** This project presents a technique used image processing techniques for fast and accurate detection of plant diseases. The steps followed by these researchers in detection of leaf spot diseases are: image acquisition, image pre-processing, disease spot segmentation, feature extraction and disease classification. The accuracy of result depends on method used for disease spot detection. The main obstacle in disease spot detection is noise, which is introduced by camera flash, change in illumination, noisy background and presence of vein in the plant leaf. Therefore a method which wipes out the noise and provides better disease spot segmentation is needed.

---

**Keywords:** Software's used were OPENCV and MATLAB.

### 1. INTRODUCTION

Dheeb Al Bashish et al. [7], proposed image processing based work is consists of the following main steps : In the first step the acquired images are segmented using the K-means techniques and then secondly the segmented images are passed through a pre-trained neural network .The images of leaves taken from Al-Ghor area in Jordan. Five diseases that are prevalent in leaves were selected for this research; they are: Early scorch, Cottony mold, ashen mold, late scorch, tiny Whiteness. The experimental result indicates that the neural network classifier that is based on statistical classification support accurate and automatic detection of leaf diseases with a precision of around 93%.The segmentation of leaf image is important while extracting the feature from that image. Mrunalini R. Badnakhe, Prashant R. Deshmukh compare the Otsu threshold and the k-means clustering algorithm used for infected leaf analysis in [8].They have concluded that the extracted values of the features are less for k-means clustering. The clarity of k-means clustering is more accurate than other method. The RGB image is used for the identification of disease. After applying k-means clustering techniques, the green pixel is identified and then using Otsu's method, varying threshold value is obtained. For the feature extraction, color co-occurrence method is used. RGB image is converted into the HSI translation. For the texture statistics computation the SGDM matrix is generated and using GLCM function the feature is calculated [9].

S. Phadikar, J. Sil, and A. K. Das [10] developed an automated classification system based on the morphological changes caused by brown spot and the leaf blast diseases of rice plant. To classify the diseases Radial distribution of the hue from the Centre to the boundary of the spot images has been used as feature by using Bayes and SVM Classifier. The feature extraction for classification of rice leaf diseases is processed in the following steps: firstly images acquired of diseased rice leaves from fields. Secondly preprocessing the images to remove noise from the damaged leaf and then enhanced the quality of image by using the [mean filtering technique. Thirdly Otsu's segmentation algorithm was applied to extract the infected portion of the image, and then radial hue distribution vectors of the segmented regions computed which are used as feature vectors.

Pranjali VinayakKesar& et al.[11] developed a leaf disease detection and diagnosis system for inspection of affected leaves and identifying the type of disease. This system is comprised of four stages: To improve the appearance of acquired images image enhancement techniques are applied. The enhancement is done in three steps: Transformation of HSI to color space in first stage .In the next stage analyzing the histogram of intensity channel to get the threshold.

2162	44358	The Journal for Artistic Research	Univ	Arts & Hum	22350225			Society for Artistic Research	Reject:Low Score
2163	44367	Topology Proceedings	Univ	Science	01464124	23311290		Auburn University * Department of Mathematics	Reject:Low Score
2164	44382	International Journal of for Research in applied Science and Engineering Technology	Univ	Multidisciplinary	23219653			Sonepat: International Journal for research in applied science and engineering technology	Reject:Low Score
2165	44403	The Lancet Public Health	Univ	Science		24682667		The Lancet	Reject:Low Score
2166	44407	International Journal of Yogic, Human Movement and Sports Sciences	Univ	Arts & Humanities		24564419		AkiNik Publications	Reject:Low Score
2167	44413	G - Journal of Enviornment, Science and Technology	Univ	Science	2322021X	23220228		Grace and Peace Welfare Society (GPWS)	Reject:Low Score
2168	44425	shodhpravaha	Univ	Multidiscip	2231413X			Academic Staff College Banaras Hindu University, Varanasi	Reject:Low Score
2169	44444	Knowledge Hub	Univ	Social Scier	09736425			Rajiv Academy for Technology and Management	Reject:Low Score
2170	44447	The Empirical Economics Letters	Univ	Social Scier	16818997			Department of Economics, Rajshahi University, Rajshahi 6205, Bangladesh	Reject:Low Score
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2172	44449	M â€œ Inifiniti Journal of Management	Univ	Social Scier	09737197			Sri Sai Ram Institute of Management Studies	Reject:Low Score
2173	44464	East - West Journal of Mathematics	Univ	Science	01252526	1513489X		Chiang Mai University * Faculty of Science	Reject:Low Score
2174	44476	Research Demagogue	Univ	Social Scier	23501081			Department of English, Yashvantrao Chavan Arts and Science Mahavidyalaya,	Reject:Low Score
2175	44506	Journal of Calcutta Mathematical Society	Univ	Science	00800659			Calcutta Mathematical Society	Reject:Low Score



# Design and Implementation of CAN Bus Controller on FPGA

Vaibhav Bhutada<sup>1</sup>, Shubhangi Joshi<sup>2</sup>, Tanuja Zende<sup>3</sup>

<sup>1, 2, 3</sup> Asst. Professor, Department of Electronics & Communication Engineering, Shri. Chhatrapati Shivaji College Of Engineering, Pune.

*Abstract: This paper describes the design, simulation and FPGA implementation of a protocol controller for the Controller Area Network (CAN) 2.0 which transmits and receives data at 1Mbps speed. It also going to deal with the design process of the FPGA, coding, simulating, testing and finally programming the FPGA. The CAN Controller designed will function as the interface between an application and the actual CAN bus. The RTL based design of CAN controller is implemented using Verilog HDL. The design is realized physically with electronic design automation (EDA) tools. Logic Equivalence is verified and Simulations are made at each level to verify the implementations. Model Sim SE6.3f will be used for functional simulation and Xilinx ISE tools will be used for synthesis and performance analysis.*

## I. INTRODUCTION

Controller Area Network (CAN) 2.0 is a serial communication bus originally developed for the automotive industry applications to replace the complex harness wiring by a two-wired bus.

The specification allows signaling rates of up to 1 Mbps and features high immunity to electrical interference and ability to self-diagnose and repair data errors.

Although initially developed for use in the automotive industry, its use quickly spread to a wide variety of embedded systems applications like industrial control where high-speed communication is required.

These features have extended the range of applications to variety of industries such as automotive, marine, medical, manufacture, military, aerospace, etc.

[1]The main task of this project is to implement the functionality of CAN controller on FPGA Board. All modules designed must conform to the CAN specification for the data transfer rate of 1 Mbps. Fig. 1 shows the block diagrams of existing and proposed CAN controller architecture.

The existing system is consist of an A/D convertor, a microprocessor, a CAN protocol controller and a transceiver. The CAN Protocol Controller receives unformatted message from the microprocessor, frames the messages as per the protocol specifications and also de-frames the received CAN message frames.

The digital signals transmitted by the protocol controller are converted into electrical signals compatible with the CAN differential transmission medium by the CAN transceiver which is used as a separate entity. The integration of these individual blocks on FPGA would constitute the entire proposed CAN Controller architecture.

494	46494	Literary Miscellany	Univ	Multidiscip	22307451			Bahri Publications	Reject:Primary Criteria
495	46495	Research and reviews: Journal of Dairy Science and technology	Univ	Science	23472359	23216204		Consortium eLearning Network Pvt. Ltd	Reject:Primary Criteria
496	46512	International Journal of Analytical, Pharmaceutical and Biomedical Sciences (IJAPBS)	Univ	Science	22780246			International Journal of Analytical, Pharmaceutical and Biomedical Sciences	Reject:Primary Criteria
497	46531	Journal of Contemporary Asia and Europe	Univ	Multidiscip	09739297			M D Publications Pvt Ltd	Reject:Primary Criteria
498	46547	The Internet Journal of Thoracic and Cardiovascular Surgery	Univ	Science		15240274		Internet Scientific Publications, Lc.	Reject:Primary Criteria
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500	46572	Journal of Emerging Technology in Mechanical Science and Engineering	Univ	Science	09762558			Blue Eyes Intelligence Engineering & Sciences Publication Pvt. Ltd	Reject:Primary Criteria
501	46573	UPSTREAM Research International Journal	Univ	Multidiscip	2320768X	23210567		Tilak Publishing House	Reject:Primary Criteria
502	46612	Researches and Studies	Univ	Arts & Hun	84621			Carleton University * Faculty of Graduate Studies and Research	Reject:Primary Criteria
503	46626	Indian Educational Abstracts	Univ	Social Scier	09725652			Ministry of Education and Social Welfare * Department of Education	Reject:Primary Criteria
504	46629	International Journal of Recent Scientific Research	Univ	Social Scier	09763031			Bioscience Research and Educational Trust	Reject:Primary Criteria
505	46637	International Journal of Information Engineering (IJIE)	Univ	Science	22258442	22269721		Izdatel'skii Dom Toloka	Reject:Primary Criteria
506	46653	McAllen International Orchid Society Journal	Univ	Science	19344880			McAllen International Orchid Society	Reject:Primary Criteria
507	46656	Orchids Journal	Univ	Science	18649459			The American Orchid Society	Reject:Primary Criteria
508	46667	Indian cartographer	Univ	Science	09728392			Indian National Cartographic Association	Reject:Primary Criteria
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**Research Article****COTTON PLANT LEAF DISEASES IDENTIFICATION USING SUPPORT VECTOR MACHINE****Jyoti.J.Bandal and Tanuja S Zende**

RDTc, SCSCOE, Dhangwadi

DOI: <http://dx.doi.org/10.24327/ijrsr.2017.0812.1259>**ARTICLE INFO****Article History:**Received 17<sup>th</sup> September, 2017Received in revised form 12<sup>th</sup>

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Accepted 04<sup>th</sup> November, 2017Published online 28<sup>th</sup> December, 2017**Key Words:**

Software's used OPENCV and MATLAB.

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This project presents a technique used image processing techniques for fast and accurate detection of plant diseases. The steps followed by these researchers in detection of leaf spot diseases are: image acquisition, image pre-processing, disease spot segmentation, feature extraction and disease classification. The accuracy of result depends on method used for disease spot detection. The main obstacle in disease spot detection is noise, which is introduced by camera flash, change in illumination, noisy background and presence of vein in the plant leaf. Therefore a method which wipes out the noise and provides better disease spot segmentation is needed.

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The segmentation of leaf image is important while extracting the feature from that image. Mrunalini R. Badnakhe, Prashant R. Deshmukh compare the Otsu threshold and the k-means clustering algorithm used for infected leaf analysis in [8]. They have concluded that the extracted values of the features are less for k-means clustering. The clarity of k-means clustering is more accurate than other method.

The RGB image is used for the identification of disease. After applying k-means clustering techniques, the green pixel is identified and then using Otsu's method, varying threshold value is obtained. For the feature extraction, color co-occurrence method is used. RGB image is converted into the HSI translation. For the texture statistics computation the

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78	42973	Kosala - Journal of The Indian Research Society of Avadh	Univ	Arts & Hum	2277923X			Brown University Library	Reject:Primary Criteria
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89	43014	Makhzan	Univ	Arts & Hum	22254943			Department of Post Graduate Studies and Research in Urdu, University of Mysore.	Reject:Primary Criteria
90	43024	amity journal of corporate governance	Univ	Multidiscip	23951737			mity Directorate of Management and Allied Areas (ADMAA)	Reject:Primary Criteria
91	43032	International Journal of Current Engineering and Scientific Research	Univ	Science	23938374			Technical Research Organisation India Kolkata	Reject:Primary Criteria
92	43040	Survey	Univ	Social Scier	05860008			Indian Institute of Social Welfare and Business Management	Reject:Primary Criteria
93	43042	Xaverian Journal of Research and Commerce	Univ	Social Scier	2347372X			St. Xavier's College, Kolkata	Reject:Primary Criteria





# REVIEW OF SUSPENSION SYSTEM AND EXPERIMENTAL STUDY OF 2 DOF QUARTER-CAR SEMI-ACTIVE SUSPENSION SYSTEM FOR RIDE COMFORT

Pramod A. Yadav<sup>1</sup>, Deepak.A.More<sup>2</sup>

<sup>1,2</sup>Mechanical Engineering Department, Pune University,  
Shri Chhatrapati Shivajiraje College of Engineering and Technology, Dangawadi, Pune, India.

## Abstract

This paper presents an experimental analysis of 2 degree-of-freedom quarter-car passive suspension system (2 DOF QC-PSS) and 2 degree-of-freedom Semi-active suspension system (2 DOF QC-S-ASS) (typically composed of a controlled damper and a passive spring) for ride comfort. A quarter-car suspension system consists of the sprung mass, unsprung mass, a suspension spring and damper and a tire spring. A damper with Electro- Rheological (ER) fluid has been considered as one of the most feasible choice for a semi-active suspension system due to its Rheological properties and low cost. Thus this model is modified to a 2 DOF Quarter-car Semiactive Suspension System by placing ER Damper, with its assistant control instrumentation, in between sprung and unsprung masses. The results illustrate considerable improvement in ride comfort above the conventional passive system. The details of the quarter-car model progress with the test set-ups for the passive and hydraulic semi-active suspension systems, suspension elements employed, experimental analysis and results are presented.

**Keywords:** 2 DOF quarter-car model; Semi-active suspension system; hydraulic actuator; ride comfort

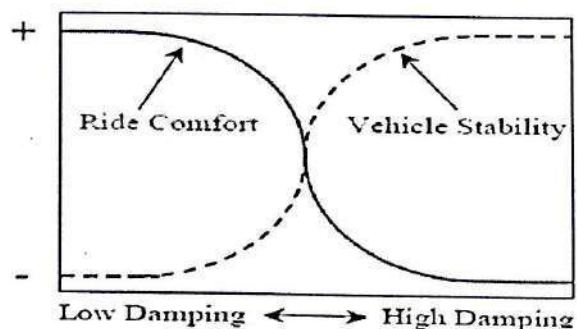
## 1. Introduction

The main goal of a vehicle's suspension system is to separate the occupants from external terrain included disturbances, while still allowing the average driver to maintain control over the vehicle and drive it safely. The design of vehicle

suspension system always involves a compromise between ride comfort and handling. For good ride comfort a compliant suspension system is normally required, while good handling demands a stiff suspension system to control body roll.

With passive suspension system, the characteristics of the springs and dampers are permanent at the design stage and cannot be changed afterwards. By using controllable springs and dampers, the suspension characteristics can be changed while vehicle is moving. It therefore becomes possible to have soft settings for good ride comfort while travelling on straight lane on good road, as well as changed to hard setting moments later to give good handling when vehicle has to change direction as required for lane changing or even accident avoidance. Setting can also be adjusted based on terrain roughness.

With limited suspension travel available, increased terrain roughness might require an increase in spring stiffness to prevent bump stop contact and therefore improve ride comfort.



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## A Multiple Criteria-Based Cost Function Using Wavelet and Edge Transformation for Medical Image Steganography

S.I. Nipanikar / V. Himma Deepthi

Published Online: 2016-12-28 | DOI: <https://doi.org/10.1515/jisys-2016-0095>

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### Abstract

With the ever-increasing need for concealing messages within cover media like image, video, and audio, numerous attempts have been developed for steganography. Most of the steganographic techniques perform their embedding operation on the cover image without selecting a better location. The right selection of location for embedding the information can lead to high imperceptibility and robustness. Accordingly, in this paper, we develop a new cost function for estimating the cost of every pixel to identify the good location to embed the message data. The proposed cost estimation procedure utilizes multiple parameters like wavelet coefficient, edge transformation, and pixel intensity. The proposed cost matrix is then utilized to embed the message data into the cover media using an embedding integer. The proposed steganographic technique is experimented with two magnetic resonance brain images, and the results are analyzed with the peak-to-peak signal-to-noise ratio (PSNR) and mean square error. The robustness analysis ensured that the proposed steganographic technique outperforms the existing methods by reaching the maximum PSNR of 72.74 dB.

**Keywords:** Steganography; medical image; wavelet; edge transformation; PSNR

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 Crossref Google Scholar

3724	45327	Learning and Teaching	Univ	Social Scier	18322751	22010645		James Nicholas Publishers, Pty. Ltd	Reject:Low Score
		Journal Of Information, Knowledge And Research In Computer Engineering	Univ	Science	09756760			Amoghsiddhi Education Society	Reject:Low Score
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3731	45773	Clues: A Journal of Detection	Univ	Arts & Hun	07424248	19403046		McFarland & Company, Inc.	Reject:Low Score
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3733	46230	Journal of Behavior, Health & Social Issues	Univ	Science	20070780			Asociacion Mexicana de Comportamiento y Salud	Reject:Low Score
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3738	46624	National Journal of Research in Management	Univ	Social Scier	22490906			Publishing India Group	Reject:Low Score

## New method for generating helpful state of deterministic finite automata

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**Abstract--** In deterministic finite automata, some state is not useful that means this type of state doesn't participant for generating useful string. This type of state is called dead state, inaccessible state or indistinguishable state. In deterministic finite automata, if we want to determine inaccessible state or (we can say unreachable state) and dead state then this is not easy for own if closure input is available. It is necessary for removing unreachable state and dead state from deterministic finite automata. Without removing unreachable state and dead state deterministic finite automata is not well form. Generally this paper is suitable for removing unreachable state in deterministic finite automata. If we will follow proposed technique then we can easily remove unreachable state in deterministic finite automata. Mainly, if we will apply this technique then we can easily remove unuseful state in deterministic finite automata. That means we can generate easily useful state in deterministic finite automata. After generating useful state we can minimize easily. So, it is important part of deterministic finite automata of generate useful state. In new deterministic finite automata (after generating of useful state), unreachable state will not available. So, we can say generation of useful state is a technique for removing unreachable state from deterministic finite automata. The presented paper, generates useful state by new technique or new approaches with taking less input symbol than running technique. Also in this paper proposed algorithm developed for removing unreachable state in deterministic finite automata. And, in this paper compares different running approaches with input symbol. Also, in this paper discussing about how java formal languages and automata package simulator useful for new (presented) technique.

**Keywords:** Automata; Deterministic finite automata; Unreachable state; Dead state.

### I. INTRODUCTION

#### A. What is automata

It is define as a system where energy, materials, information are transformed, transmitted and used for performing some function without direct participation of human. In second way we can define automata is a nachine for generating regular expression, context free grammar, context sensitive grammar and recursive enduring language. In computer science, automaton means 'discrete automaton' [1,2].

A finite automaton (FA)  $M$  as the quintuple  $M = (Q, \Sigma, \delta, q_0, F)$  where

$Q$  is a finite set of states  $\{q_i | i \text{ is a nonnegative integer}\}$

$\Sigma$  is the finite input alphabet

$\delta$  is the transition function,  $\delta : D \rightarrow 2^Q$  where  $D$  is a finite subset of  $Q \times \Sigma^*$

$q_0$  (is member of  $Q$ ) is the initial state

$F$  (is a subset of  $Q$ ) is the set of final states

Note that, above definition includes both deterministic finite automata (DFAs), which we will be discussing shortly, and nondeterministic finite automata (NFAs), which we will discuss on later[4,7].

#### B. Definitions and Notations

1) **Alphabet and Language:** It (Alphabet) is defined as finite non-empty set of symbols on which the language is defined. Alphabets are denoted by  $\Sigma$ . Language is defined as a subset of  $\Sigma^*$ . Empty string and null language are denoted by  $\epsilon$  and  $\phi$  respectively. Various kinds of formal languages can be classified as regular language, context free language, context sensitive language and recursive language. Regular language can be described by regular expression, finite automata

2) (Deterministic or Non-deterministic). A language over 'a' and 'b' that will include all strings having length less than 2 is  $L = \{\epsilon, a, b, aa, ab, ba, bb\}$  [3,8].

3) **Operations on languages:** Following are the operations that can be performed on languages.

**Union:** Union of two languages  $L_1$  and  $L_2$  is set of all the strings that are in also  $L_1$  or  $L_2$ , or both. For example, if  $L_1 = \{001, 10, 111\}$  and  $L_2 = \{\epsilon, 01, 10\}$ , then  $L_1 \cup L_2 = \{\epsilon, 01, 10, 001, 10, 111\}$ .

**Concatenation:** Concatenation of two languages  $L_1$  and  $L_2$  is set of all the strings that can be formed by taking one string in  $L_1$  and concatenating it with any string in  $L_2$ . Regular Language can be articulated by regular expression or DFA. i.e.

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3729	45554	Sangeet Galaxy	Univ	Arts & Hum	23199695			Assam Don Bosco University Sangeet Galaxy	Reject:Low Score
3730	45725	NeBio	Univ	Science	09763597	22782281		North East Centre for Environmental Education and Research	Reject:Low Score
3731	45773	Clues: A Journal of Detection	Univ	Arts & Hum	07424248	19403046		McFarland & Company, Inc.	Reject:Low Score
3732	45983	International Journal of Entomology Research	Univ	Science	24554758	24554758		Gupta Publications	Reject:Low Score
3733	46230	Journal of Behavior, Health & Social Issues	Univ	Science	20070780			Asociacion Mexicana de Comportamiento y Salud	Reject:Low Score
3734	46423	Journal of Community Positive Practices	Univ	Multidiscip	15828344	22476571		Asociatia pentru Dezvoltare si Promovare Socio-Economica Catalactica	Reject:Low Score
3735	46486	International Current Pharmaceutical Journal	Univ	Science	22249486			Saki Publishing Club	Reject:Low Score
3736	46517	Academie Royale de Belgique. Bulletin de la Classe des Sciences. 6e Serie	Univ	Science	00014141			Academie Royale des Sciences, des Lettres et des Beaux-Arts de Belgique, Koninklijke Vlaamse Academie van België voor Wetenschappen en Kunsten	Reject:Low Score
3737	46526	JIMQUEST: Journal of Management and Technology	Univ	Social Scier	09756280			Jaipuria Institute of Management, Indirapuram	Reject:Low Score
3738	46624	National Journal of Research in Management	Univ	Social Scier	22490906			Publishing India Group	Reject:Low Score

## Natural Language Database Interface For Select Sql query with Probabilistic Context Free Grammar

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**Abstract :** A Natural Language Interface to a Database (NLIDB) is a system that allows the user to access information stored in a database by typing requests expressed in some natural language. (NLIDB) are systems that translate a natural language sentence into a database query NLDBI system including its probabilistic context free grammar, which can be used to construct the parse tree, an algorithm to calculate the probabilities. We specify the model for helping the user with queries depending up on probabilistic context free grammar (PCFG) to relational database.

**Keywords:** NLDBI, Probabilistic Context Free Grammar, SQL Translator, Experimental Methodology

### 1. NLDBI

NLDBI (Natural Language Database Interface) is a system that allows users to access a database in natural language and has been a popular field of study. NLDBI allows the users to access the database even though they doesn't have the database dependent SQL Queries. User enters his query with the help of interface. As all the employees in an organization may not be aware of the SQL queries so the user cannot access the database content directly. The user who has the knowledge of the database querying language can enter the query and search in the database.

The users face a huge problem as they may not be aware of the database dependent languages. As to provide a interface to the users such that they can enter the query in the English as most of the users of the system are familiar with the English language. The users enter his query in the general English language the system is responsible for understanding the query parse and translate into an SQL query.

### LUNAR (1973)

This system comes in early seventies (1973).[2] The system LUNAR science Natural language information system which was used to serve queries regarding MOON ROCKS. It syntactically analyzed language



2516	47103	Sports scientist views in Indian journal of physical education	Univ	Multidiscip	2229550x	24550175		R sharma	Reject:Low Score
2517	47117	Journal of Statistical Research	Univ	Science	0256422X			University of Dhaka	Reject:Low Score
2518	47129	ANWESH: International Journal of Management & Information Technology	Univ	Social Scier	24559245			College of Engineering Roorkee	Reject:Low Score
2519	47130	Chota Nagpur Law Journal	Univ	Social Scier	09730923			Chota Nagpur Law College	Reject:Low Score
2520	47141	विद्युत विज्ञान	Univ	Multidisciplinary		24751359		Anurag sharma	Reject:Low Score
2521	47145	Vidhan	Univ	Arts & Hum	22309896	22309896		Vidhan	Reject:Low Score
2522	47147	International Journal of Scientific Research in Science, Engineering and Technology	Univ	Science	23961990	23944099		Rajkot, Gujrat, India	Reject:Low Score
2523	47149	Journal of Adapted Physical Education & Yoga (IJAEY)	Univ	Multidiscip	24558958			Vivekananda University, Coimbatore	Reject:Low Score
2524	47152	Chemical Science Transaction	Univ	Science	22783318	22783458		www publication	Reject:Low Score
2525	47157	International Journal Metallurgical & Materials Science and Engineering	Univ	Multidiscip	22782516	22782524		rans-stellar Journal Publications and Research Consultancy Private Limited (TJPRC Pvt. Ltd)	Reject:Low Score
2526	47174	African Diaspora Journal of Mathematics	Univ	Science		1539854X		Mathematical Research Publishers (MRP): US	Reject:Low Score
2527	47176	Earth Surface Review	Univ	Social Scier	09760768			Geographical Development Research Institute, Gorakhpur	Reject:Low Score
2528	47188	Extracta Mathematicae	Univ	Science	02138743			Departamento de Matemáticas	Reject:Low Score
2529	47199	International Journal for Social Development	Univ	Social Scier	23209283			Institute for Social Development and Research	Reject:Low Score
2530	47204	International Journal of English Literature & Culture	Univ	Arts & Humanities		23607831		Academic Research Journal Nicaragua	Reject:Low Score
2531	47207	Journal of the Oxford Centre for Buddhist Studies	Univ	Arts & Hum	20491076			The Oxford Centre for Buddhist studies	Reject:Low Score
2532	47210	Indian Journal of Helminthology	Univ	Science	00195227			India Society of Helminthology, Lucknow, India	Reject:Low Score
2533	47213	Open Access Library Journal	Univ	Multidiscip	23339705	23339721		Open Access Library Inc.	Reject:Low Score

# A Review - Anomaly Based Network Security Using Response Recovery Engine

Ganesh Ghodke, Vaibhav Sarode, Sagar Valmiki, Prof. Patil S. S., Prof. Kothawale G. S.

Al-Ameen College of Engineering, Koregaon Bhima, Savitribai Phule Pune University, Pune, India

## ABSTRACT

The security of the network reduces due to increase in the size of the network, there are many intrusion detection and intrusion response strategies which are carried on the basis to find and stop the intruders in the network such as local and global. Preserving the availability and integrity of networked computing systems in the face of fast-spreading intrusions requires advances not only in detection techniques and also in automated response techniques. Preserving the availability and integrity of networked computing systems in the face of fast-spreading intrusions requires advances not only in detection algorithms, but also in automated response techniques. In this paper, we propose a new approach to automated response called the response and recovery engine (RRE). Our engine employs a game-theoretic response strategy against adversaries modeled as opponents in a two-player Stackelberg stochastic game. The RRE applies attack-response trees (ART) to analyze undesired system-level security events within host computers and their countermeasures using Boolean logic to combine lower level attack consequences. In addition, the RRE accounts for uncertainties in intrusion detection alert notifications. The RRE then chooses optimal response actions by solving a partially observable competitive Markov decision process that is automatically derived from attack-response trees. To support network-level multiobjective response selection and consider possibly conflicting network security properties, we employ fuzzy logic theory to calculate the network-level security metric values, i.e., security levels of the system's current and potentially future states in each stage of the game. In particular, inputs to the network-level game-theoretic response selection engine, are first fed into the fuzzy system that is in charge of a nonlinear inference and quantitative ranking of the possible actions using its previously defined fuzzy rule set. Consequently, the optimal network-level response actions are chosen through a game-theoretic optimization process. Experimental results show that the RRE, using Snort's alerts, can protect large networks for which attack-response trees have more than 500 nodes.

**Keywords:** Stackelberg game, ART trees, RRE engine, Markov Decision making, fuzzy rule set. Intrusion response systems, network state estimation.

## I. INTRODUCTION

The network is in the order of increasing size in day to day life hence the security of the network is to be affected in great manner. IP fragmentation, SMTP mass mailing, DoS attacks, flood attacks, spoofing, buffer overflow are some of the attacks that occur in the network. There is other serious threat in network considered to be Intrusion. Intrusion is an action or instance of intruding or an unwelcome visit or a set of actions aimed to compromise integrity, confidentiality,

or availability, of a computing as well as networking resource. that is an intrusion on one's privacy. in order to detect the intrusions the systems of intrusion detection, prevention and response systems are needed.

This paper is built upon our previous work [4]. In this paper, we present an automated cost-sensitive intrusion response system called the response and recovery engine (RRE) that models the security battle between itself and the attacker as a multistep, sequential, hierarchical, non-zero-sum, two-player stochastic game. In

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# Analysis of Various Exploiting Modification Direction Techniques of Image Steganography: A Review Paper

Sourabh joshi<sup>1</sup>, S.I.Nipanikar<sup>1</sup>

<sup>1</sup>Padmabhooshan Vasantdada Patil Institute of Technology, Pune, MS-India

**Abstract**— Exploiting Modification Direction (EMD) is a spatial domain image steganography technique to conceal secret data into digital images. In this paper, different types of EMD methods are explained. The important idea behind EMD is to embed the secret data with minimum loss of carrier image. This method provides high embedding efficiency when compared to other techniques. This paper gives the brief idea of different EMD techniques and their comparison.

**Keywords** - Steganography, Exploiting Modification Direction (EMD), Stego image.

## I. INTRODUCTION

Now a day, internet is the key part of human's day to day life. Since for various kinds of transactions internet is a key element day by day its usage is increasing. Generally, with the help of internet, we can send various kinds of digital messages or information. Although internet provides ease of communication and low cost way there are many kinds of dangers hidden behind its advantages. For ex. secret information can be leaked, changed or being used on any unauthorized cases by hackers during data communication from transmitter to receiver. Thus, there is a necessity to avoid all the kind of unknown third party interference with the system. For this reason, a method is developed known as data hiding. Basically, it deals with hiding of secret message inside the cover image so that no one has any idea about hidden secret message. Such image is called as stego image. Later this stego image is successfully transmitted to its desired recipients where secret data is taken out from the stego image. This method is known as steganography.

Up till now, different data hiding methods were proposed and generally maximum data hiding methods are using LSB (least significant bites) position to conceal the confidential data. Means first confidential information is converted into binary format then it is replaced by least bit. [1, 2, 3].

EMD is a steganographic embedding method [4] used for digital images in which  $n$  cover pixels carries each secret digit in  $(2n+1)$  ary notational system. Here, only one cover pixel is either increased or decreased by 1 or remain same. In general, there are  $2n$  possible ways of alteration for each group of  $n$  cover pixel. These  $2n$  ways of modification and one case in which no pixel is changed form  $(2n + 1)$  different values of a secret digit. Since the direction of modification of cover pixel is fully exploited here thus this

method is called EMD which achieves high embedding efficiency as compared to other techniques.

Various types of EMD methods are also developed which are given in this paper. This paper is arranged as follows: In section II, concepts behind EMD technique has been discussed. Various types of EMD schemes have been explained and compared in section III. In section IV, the overall paper is concluded.

## II. CONCEPT BEHIND EMD

The basic EMD method was proposed by Zhang and Wang [4] which is having highest embedding efficiency and embedding rate than matrix encoding and run length encoding. In this method, binary confidential data is converted into secret digit ( $d$ ) in  $(2n+1)$  ary notational system in such a way that one secret digit is carried by  $n$  pixels. Thus, secret message is first converted into secret digits in  $(2n+1)$ -ary notational system and then each secret digit are embedded into pixel group  $(g_1, g_2 \dots g_n)$ . To embed secret digit ( $d$ ) into pixel group, value of extraction function  $f_e$  is calculated by using:

$$f_e(g_1, g_2, \dots, g_n) = (g_1 * 1 + g_2 * 2 + \dots + g_n * n) \bmod (2n+1)$$

If  $f_e \neq d$ , then only one of the pixels from the pixel group has to be incremented or decremented by one. If  $f_e = d$ , then there is no need to change any pixel and the process continues until no secret digit is remaining.

For extraction of the secret data, same equation is used for each pixel group  $(g_1, g_2, \dots, g_n)$  to track the secret digits. Then all the secret digits are converted back into binary format from  $(2n+1)$ -ary notation to find out the secret message.

But the disadvantage of this method is that it is having less embedding capacity and more processing time. Since message needs to be converted into another format.

## III. VARIOUS TYPES OF EMD TECHNIQUES

EMD scheme proposed by Zhang and Wang [4] give high embedding efficiency and also its PSNR value is above 50, but its disadvantage is that it hides only one secret digit in each  $n$  pixel group. Thus for improving embedding capacity various improved EMD techniques were proposed. Few of them are described below:

### A. Data Hiding By EMD Technique Using Optimal Pixel Grouping

The optimized EMD method was proposed by analyzing the relationship between  $n$  and payload by Lin et al [6] in 2010 having high PSNR value than OPAP and LSB method

2660	47956	Indian Journal of Society & politics	Univ	Social Scier	23480084	24552127		WINSOME INDIA EDUCATIONAL TRUST	Reject:Low Score
2661	47990	Think Different International Multidisciplinary Journal	Univ	Multidiscip	2348 665	2455 307		Gujarat	Reject:Low Score
2662	48007	ACS Sensors	Univ	Science		23793694		merican Chemical Society	Reject:Low Score
2663	48010	Journal of Indian Geomorphology	Univ	Science;Art	23200731			Dept of Geography, Allahabad University	Reject:Low Score
2664	48020	Antim Jan	Univ	Social Scier	22781633			Gandhi Smriti Evam Gandhi Darshan Samiti, Rajghat, New Delhi	Reject:Low Score
2665	48041	ĀĕnikĀyikĀ	Univ	Arts & Hun	22313680			Department of Philosophy and Religion, BHU	Reject:Low Score
2666	48046	Indian Journal of Cancer Education & Research	Univ	Multidiscip	23219815	24558257		Red Flower Publication Pvt. Ltd , Delhi, India	Reject:Low Score
2667	48048	Food and applied bioscience journal	Univ	Science	22868615			Fab Journals	Reject:Low Score
2668	48051	Aarshajyoti	Univ	Arts & Hun	22780912			Shrimaddayananda-Aarsh- Jyotirmath-Gurukulam, Dunvatika-2 Poundha, Deharadun	Reject:Low Score
2669	48076	Anthropology Open Journal	Univ	Science	24734772			Openventio Publishers ; 8280, Willow Oaks Corporate Drive Suite 600, Fairfax VA 22031, USA	Reject:Low Score
2670	48077	PRIMA: Practices and Research in Marketing	Univ	Arts & Humanities;Mu		2230844X		Symbiosis Centre for Management & Human Resource Development	Reject:Low Score
2671	48079	International Journal of Computer Science and Information Technology Research Excellence	Univ	Science	22502734			International Research and Development Publisher, India	Reject:Low Score
2672	48082	Journal of Applied Biology & Biotechnology	Univ	Science	24557005	2347212X		Open Science Publisher	Reject:Low Score
2673	48084	IAES International Journal of Artificial Intelligence	Univ	Science		22528938		IAES International Journal of Artificial Intelligence	Reject:Low Score

## Grading of Soybean Leaf Disease Based on Segmented Image Using K-means Clustering

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CIE L\*a\*b

Disease Region Area

Disease Severity

K-Means

Leaf Region Area

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### ABSTRACT

Traditional method used for disease scoring scale to grade the plant diseases is mainly based on neckaed eye observation by agriculture expert or plant pathlogiest. In this method percentage scale was exclusively used to define different disease severities in an illustrated series of disease assessment keys for field crops. The assessment of plant leaf diseases using this aapproach which may be subjective, time consuming and cost effective. Also accurate grading of leaf diseases is essential to the determination of pest control measures. In order to improve this process, here we propose a technique for automatically quantifying the damaged leaf area using k means clustering, which uses square Euclidian distances method for partition of leaf image. For grading of soybean leaf diseese which appear on leaves based on segmented diseased region are done automatically by estiamting thae ratio of the unit pixel expressed under diseased region area and unit pixel expressed under Leaf region area. For experiment purpose samples of Bacterial Leaf Blight Septoria Brown spot, Bean Pod Mottle Virus infected soybean leaf images were taken for analysis. Finally estiamated diseased severity and its grading is compared with manual scoring based on conventional illustrated key diagram was conducted. Comparative assessment results showed a good agreement between the numbers of percentage scale grading obtained by manual scoring and by image analysis. The result shows that the proposed method is precise and reliable than visual evaluation performed by patahlogiest.

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### 1. INTRODUCTION

Soybean Leaf diseases like Bacterial Leaf Blight, Septoria Brown Spot, and Bean Leaf pod Mottle are cause significant reduction in yield loss and lead to affect quality of soybean Products [1], thus influence economy and farmers life. An effective way to control soybean foliar diseases is by applying fungicides. To test the method for disease assessment, black and white drawings from a manual of disease assessment keys showing foliar diseases with different disease severities [2]. Although there is an industrial recognized corresponding standard to grade the leaf spot disease [4-7], the naked eye observation method is mainly adopted in the production practice. Because of the difference of personal knowledge and practical experience; the same samples are classified into different grades by different experts. Therefore, the result is usually subjective and it is impossible to measure the disease extent precisely. Although grid paper method can be used to improve the accuracy, it is seldom used in practice due to cumbersome operation process and time-consuming. Therefore looking for a fast and accurate method to measure plant disease severity is of great realistic significance. Since the late 1970s, computer image processing technology is applied in the

								Ramjanm Mishra & Pragati Nyas, Pragati Bhavana, Chaiti Durga Asthan, Dr. Rajendra Pd. Road, Sahebganj, Jharhand, Pin-816109	
3362	63963	Tore Sutam	Univ	Arts & Hum	23215535				Reject:Low Score
3363	63964	Strombus	Univ	Science	14152827	19832214		Conchologists of Brazil	Reject:Low Score
3364	63969	UNIVERSITY COLLEGE JOURNAL OF POLITICS & SOCIETY	Univ	Social Scier	23478411			Head, Department of Political Science, University College	Reject:Low Score
3365	63971	Journal of Statistics	Univ	Science	16848403			Department of Statistics GC University, Lahore	Reject:Low Score
3366	63974	Journal of Tripura Mathematical Society	Univ	Science	09721320			Tripura Mathematical Society	Reject:Low Score
3367	63977	International Journal of Healthcare Sciences	Univ	Multidiscip	23485728			Mr. P. Khandelwal, 638/5, GF-1, Shanker Vihar, Indira Nagar, Lucknow, U.P., India. Pin-226016	Reject:Low Score
3368	63978	Endodontic Practice Today	Univ	Science		17532809		QUINTESSENCE PUBLISHING	Reject:Low Score
3369	63982	Review of Social Sciences	Univ	Social Scier	09749004			Kerala Academy of Social Science	Reject:Low Score
3370	63990	International Journal of Tourism & Hospitality Reviews	Univ	Social Science		23957654		Gyandhara International Academic Publication	Reject:Low Score
3371	63996	THE IIS UNIVERSITY JOURNAL OF ARTS	Univ	Arts & Hum	23195339			THE IIS UNIVERSITY	Reject:Low Score
3372	64000	North Bengal University Journal of Animal Sciences	Univ	Science	09751424			Registrar,NBU	Reject:Low Score
3373	64006	Journal of Organizational Studies and Innovation Review,	Univ	Social Scier	20569122	20569130		Management and business Academy Brunel University, U.K	Reject:Low Score
3374	64012	vijnanakairali	Univ	Arts & Hum	23491051			kerala bhasha institute	Reject:Low Score
3375	64013	International journal of scientific progress and research	Univ	Social Science		23494689		national science library	Reject:Low Score
3376	64024	Seva-Chetna	Univ	Social Scier	22314660			Ram Nivas Jain, Lucknow	Reject:Low Score
3377	64028	Anvesha The Horizon	Univ	Multidiscip	24545430			Kisan PG College, Bahraich	Reject:Low Score



# Feasibility of Using Various Fruit Seeds Oil As A Source of Biodiesel

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**Abstract** - Energy is the critical input factor for the socioeconomic development and welfare of human being of any country. Fossil fuels are the major sources for the energy demand since their exploration. Due to limited reserves of fossil fuels, environmental degradation, and volatility in fuel prices, there is a growing need for energy security and protection of the environment. Country like India with an agricultural background has wasteland of about 55.27 million hectares, which can be utilized for growing plants/crops, which produce nonedible oil in appreciable quantity. Thus indigenously produced biodiesel, which is defined as the mono-alkyl ester of vegetable oils or animal fats, obtained by transesterifying oil or fat with an alcohol, is considered one of the options to substitute the petroleum fuels. Various fruit seeds containing large amount of oil in their seeds such as Mango, Custard Apple, Papaya, Cucurbita Pepo, Luffa Cylindrica, Cucumis Melo can be used for biodiesel production.

**Keywords** - Fruit seeds, transesterification, Biodiesel, Ethyl ester.

## I. INTRODUCTION

Biofuels have become one of the major solutions to issues of sustainable development, energy security and a reduction of greenhouse gas emissions. Biodiesel, an environmental friendly diesel fuel similar to petro-diesel in combustion properties, has received considerable attention in the recent past worldwide. Biodiesel is a methyl or ethyl ester made from renewable biological resources such as vegetable oils (both edible and nonedible), recycled waste vegetable oil and animal fats. The use of vegetable oils as alternative fuels has been in existence long ago but was set aside due to the availability of petroleum products which appears to be cheaper.[10]

Biodiesel is now recognized as an alternative because it has several advantages over conventional diesel. It is safe, renewable and non-toxic. It contains less sulphur compounds and has a high flash point (>130°C). It is almost neutral with regards to carbon dioxide emissions, and emits 80% fewer hydrocarbons and ~50% less particles. It enjoys a positive social impact, by enhancing rural revitalization. It is the only alternative fuel currently available that has an overall positive lifecycle energy balance.

## II. OIL EXTRACTION PROCESS

Various techniques such as mechanical extraction, solvent extraction, traditional extraction and super critical fluid extraction are used to obtain the oil from the seeds. The solvent extraction has become the most popular method of extraction of oil because of its high percentage of oil recovery from seeds. Solvent extraction bridges the gap between mechanical extraction which produces oil with high turbidity metal and water content and supercritical fluid extraction which is very expensive to build and maintain its facilities. Temperature is increased for oilseeds after pre-treatments such as cracking, dehulling and milling by heating, roasting and steaming of oilseeds prior to extraction and is termed thermal treatment of oilseeds.[2] Better extraction is achieved by heating, which reduces the oil viscosity and released oil from intact cells, and also reduces moisture in the cells. Temperature plays an active role in the seed treatment for mechanical extraction and ensures an effective solvent process by heating the solvent which hastens the extraction process. At the right temperature and moisture content, the individual oil droplets unite to form a continuous phase and flow out maximizing oil yield. Solvent extraction is the use of chemicals as solvents in the extraction of oil from oilseeds. Solvent extraction is known for its high yielding oil output, ease and swiftness to carry out: relatively cost effective, high overhead cost, and hazardous effects during and after operations. The use of this method requires a complete refining process to ensure traces of the solvents to be removed totally. Solvent extraction of cleaned, cracked, dehulled and conditioned flakes with hexane is commercially practiced to extract oil.

## III. BIODIESEL PRODUCTION

Generally two stage transesterification process is used for the production of biodiesel. This process consists of a sequence of three consecutive reversible reaction i.e. conversion of triglycerides to diglycerides followed by diglycerides to monoglyceride. The glycerides were converted into glycerol and one ester molecule at each step. If the oil contains more than 4% free fatty acids (FFA), then a two step transesterification is applicable to convert the high FFA oils to its mono esters. The first step, the acid

2083	43847	International Journal for Advance Research in Engineering and Technology (IJARET)	Univ	Science			23206802		IJARET	Reject:Low Score
2084	43851	International Journal of Mathematical Sciences and Computing	Univ	Science	23109025				Pajoy Journals	Reject:Low Score
2085	43870	Sodh Sanchayan	Univ	Social Scier	09751254				Shodh Sanchayan	Reject:Low Score
2086	43874	Quarterly journal of management development	Univ	Social Scier	04486175				Kent State University * Comparative Administration Research Institute	Reject:Low Score
2087	43879	GSTF Journal of Law and Social Sciences (JLSS)	Univ	Social Scier	22512853	22512861			Global Science and Technology Forum	Reject:Low Score
2088	43892	Internatinal Journal of Current advanced Research (ijcar)	Univ	Multidiscip	23196505	23196475			IJCAR Publication	Reject:Low Score
2089	43894	Global Journal of Advance Research	Univ	Multidiscip	23945788				GJAR	Reject:Low Score
2090	43903	Journal of the Korean Society for Industrial and Applied Mathematics	Univ	Science	12269433	12290645			Korean Society for Industrial and Applied Mathematics	Reject:Low Score
2091	43906	International Journal of Researches in Bioscience, Agriculture & Technology	Univ	Science			2347517x		VMS, India	Reject:Low Score
2092	43913	International journal of applied Home science	Univ	Multidiscip	23941413	23941413			Tirupati Journal Solutions	Reject:Low Score
2093	43919	Jai Ma Saraswati Gyandayini	Univ	Social Scier	24548367				Gwalior: JMS Institute of Law	Reject:Low Score
2094	43922	The International Art in Early Childhood Research Journal	Univ	Social Science			18370020		Armidale : University of New England	Reject:Low Score
2095	43923	Internation Journal of Advanced Research in Electronics and Communication Engineering	Univ	Science	2278909x				IJARECE	Reject:Low Score
2096	43927	Natura Montenegrina	Univ	Science			18007155		Prirodnjacki Muzej Crne Gore, Natural History Museum of Montenegro, Montenegro	Reject:Low Score

# STUDY ANALYSIS OF EMBEDDED WEB SERVER FOR BOILER PARAMETERS

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**Abstract** – This paper presents a design of new industrial automation system that uses embedded web server technology which can be used to communicate with the system remotely. It introduces design of Embedded Web server based on ARM 7 processor and Ethernet controller. It is better to use embedded web server rather than PC as a server due to small size, low cost and less power consumption. This Embedded Web server can be used in various applications like industrial, agriculture and home automation. This paper proposes a review on remote monitoring and control of boiler plant parameters. Users and admin can locally (LAN) or remotely (internet) manage and control system by entering correct ip address in the browser with correct password.

**Key Words**– Embedded Webserver, ARM 7, Ethernet controller.

## I. INTRODUCTION

Our daily life has become so much dependent on automation that it is difficult to imagine life without automation. Environmental protection engineering, agriculture, industrial and medical engineering are some of the areas where automation is playing important role. In the past, automation engineering was mainly thought as control engineering with a number of electrical and electronic components. This phenomenon has been changed since computers and software have made their way into each component and element of communication and automation. Data acquisition systems with remote access are much in need in industrial sector and consumer applications. With the ability to access the application remotely, one can avoid the need to send a person to the application and thus save money and labor time. A web server provides access to the end devices for the client by uploading web pages as per the requests of the client. When the configured IP address is entered in the web browser, the designed HTML web pages gets displayed through which the client can remotely monitor the sensor status and control the parameters. ARM7 processor is the main controller of the system, ARM Processor is chosen because ARM has high data processing capability. Boiler parameters such as temperature, pressure, water level and gas leakage are used in this system which can be monitored through the predesigned web pages.

## II. LITERATURE REVIEW STAGE

A deep and profound literature survey is backbone of any successful project. Extensively search has been carried out for past and related work in this field. Internet tool is used as source of information for carrying out this literature survey.

(1) "Embedded Web Server for Home Appliances", IJERA, Mar'12 by Mr. Abhishek Vichare and Ms. Shilpa Verma:

Main aim of this paper is to describe how to connect a micro- controller to LAN or Internet and use it as a web server. This paper offers a new approach to control home appliances from a remote terminal, with an option from a local server, using the Internet. The system is designed to control home appliances' on/off, to regulate their output power, and to set their usage timing. The microcontroller which is used in this project is the Philips P89C51RD2BN microcontroller.

(2) "ARM Embedded Web Server Based on DAC System", 2011 IEEE by M Poongothai:

This paper describes the principles to design a system for Internet-based data-acquisition system and control by using Advanced RISC Machine (ARM7/9) processor and in-built web server application with General Packet Radio Service (GPRS) technology. The main core of the system is an embedded hardware running on a NUT OS, an industrial grade RTOS for hard time applications.

(3) "Design and Implementation of an Embedded Webserver Based on ARM", 2010 IEEE by Mo Guan and Minghai Gu:

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## FPGA IMPLEMENTATION OF IMAGE FUSION USING DWT FOR REMOTE SENSING APPLICATION

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**Abstract**— Earth observation satellites provide different portion of multisensory data at different resolutions. The fusion of multisensory image data has become a useful tool in remote sensing application. The DWT based image fusion approach has many fusion rules such as maximum, minimum, average. In this paper, we propose the best image fusion approach base on DWT with maximum fusion rule and hardware implementation for DWT maximum fusion rule using Xilinx System Generator (XSG) is demonstrated on FPGA. FPGA board used here is Spartan6 sp601.

**Index Terms**— Image fusion, DWT, Simulink, Xilinx System Generator (XSG), Hardware Co-Simulation

### I. INTRODUCTION

Recently, the image fusion has great importance in digital image processing. Image fusion is a data fusion technology which keeps images as main research contents. The main goal of image fusion is to integrate complementary multisensory, multi-temporal and multi-view information into one new image which is more informative than any of the input images. The multisensory data in the field of remote sensing, medical imaging may have multiple images of the same scene providing different information. In a single image not contains all the information of objects in the image. Image fusion is used to achieve more information contents. Image fusion is the process of combining complementary

information from multiple images into a single image which includes more information than any of the input images. Image fusion has widely used in remotely sensed image analysis at pixel, feature, and decision level. Images used for fusion can be taken form multimodal imaging sensors or from the same imaging sensor at different times [1].

The infrared & visible image is part of multisource data fusion for acquiring complementary information toward the formation of high performance perception system. Those images are captured by IR & Visible sensor provide different & complementary information through the fusion of these images are required to get maximum information than original one with the characteristics of information rich and easy to identify.

Image fusion is mainly divided into different levels. In this paper only used the pixel-level fusion. Pixel level image fusion method has various methods such as weighted average, Principal Component Analysis (PCA), Discrete Cosine Transform (DCT), Discrete Wavelet Transform (DWT) and Stationary Wavelet Transform (SWT). The DWT method has important in an image fusion method for its excellent feature & time frequency analysis. Wavelet transform fusion is defined as considering the wavelet transforms of two registered input images together with the fusion rule. The fused image is reconstructed by taking inverse wavelet transform.

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## EMBEDDED WEB SERVER BASED INDUSTRIAL AUTOMATION FOR BOILER SYSTEM

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**Abstract** – This paper presents a design and prototype implementation of new industrial automation system that uses embedded web server technology which can be used to communicate with the system remotely. It introduces design of Embedded WEB server based on ARM 7 processor and Ethernet controller chip. In various internet application based on client/server architecture, it is better to use embedded web server rather than PC server for decreasing size, cost and power consumption. This Embedded WEB server can be used in various applications like industrial, agriculture and home automation. This paper proposes a review on remote monitoring and control of boiler plant parameters. The proposed system consists of two main components; the first part is the server (web server), which presents system core that manages, controls, and monitors industrial plant. Users and system administrator can locally (LAN) or remotely (internet) manages and control system by entering correct password.

**Index Terms** – Embedded Webserver, ARM 7, Ethernet controller

### I. INTRODUCTION

Society in its daily life has become so dependent on automation that it is difficult to imagine life without automation engineering. Trade, environmental protection engineering, agriculture, building engineering, and medical engineering are some of the areas where automation is playing a prominent role. In the past, automation engineering was mainly understood as control engineering dealing with a number of electrical and electronic

components. This picture has changed since computers and software have made their way into every component and element of communications and automation. Data acquisition systems with remote accessibility are in great demand in industry and consumer applications. With the ability to access the application remotely, corporation can eliminate the need to send a service person to the application and thus save the labor time and money. A web server provides access to the end devices for the client by uploading web pages as per the client request. When the configured IP address is enter in the web browser, the predesigned HTML web pages gets displayed through which the client can remotely monitored the sensor status respectively. ARM7 processor is the main controller of web server, ARM Processor is chosen because ARM has high data processing capability.

### II. LITERATURE REVIEW STAGE

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# Implementation of Image Fusion Techniques for Remote Sensing Application

Gore Tai M<sup>1</sup>, Prof. S I Nipanikar<sup>2</sup>

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<sup>2</sup>Assistant Professor, Department of E&TC, PVPIT, Pune, India

**Abstract**— in remote sensing; there are many applications that simultaneously require the high spatial and high spectral resolution from multisensory images. Image fusion is required to combining relevant information from two or more images into a single image which is more informative than any of the input images. In this paper, we propose an image fusion approach based on Discrete Cosine Transform (DCT), Discrete Wavelet Transform (DWT) & Stationary Wavelet Transform (SWT) and the hardware implementation of fused image using Discrete Wavelet Transform on FPGA platform and their comparative analysis with the help of parameter evaluation for various test images.

**Keywords**— Discrete Cosine Transform (DCT), Discrete Wavelet Transform (DWT), Fusion, Multi-Sensor, Stationary Wavelet transforms (SWT).

## I. INTRODUCTION

Recently, the image fusion has great importance in digital image processing. Image fusion is a data fusion technology which keeps images as main research contents. The main goal of image fusion is to integrate complementary multisensory, multi-temporal and multi-view information into one new image which is more informative than any of the input images. The multisensory data in the field of remote sensing, medical imaging may have multiple images of the same scene providing different information. It is not possible to have a single image that contains all the information of objects in the image. To achieve this, image fusion is required. Image fusion is the process of combining relevant information from two or more images into a single image which is more informative than any of the input images. Data fusion has been widely used in remotely sensed image analysis at pixel, feature, and decision level. Images used for fusion can be taken from multimodal imaging sensors or from the same imaging sensor at different times [1].

The IR images contain information that is not the same as in the visible range images. The IR reflectance of objects may be different than for the visible light.

Foliage is often much more intensive in IR images and some semitransparent objects may become transparent in IR wavelengths and vice versa. One possible solution comes from the field of data fusion of these images with different contents could be utilized to enhance image quality of object if suitable cameras are available. A number of methods have been proposed for merging infrared images with visible spectrum images concentrate heavily on the surveillance and remote sensing applications [10]. Fusion methods can be broadly classified into two that is spatial and transform domain fusion. But spatial domain methods such as Averaging, Brovery, and Principle Component Analysis (PCA) based methods produce spectral distortion in the fused image. This is particularly crucial in remote sensing if images to merge were not taken at the same time. In the last few years, multi-resolution analysis has become one of the most promising methods for the analysis of images in remote sensing. Recently proposed new approach to image merging that uses a multi-resolution analysis procedure based upon wavelet transform. The DWT and SWT based method will be more efficient for fusion. Stationary Wavelet Transform (SWT) is similar to Discrete Wavelet Transform (DWT) but the only process of down-sampling is suppressed that means the SWT is translation-invariant [2]. But the image fusion algorithm based on DWT is faster developed image fusion method in recent decade. Discrete Wavelet Transform has good time frequency characteristics. DWT is defined as considering the wavelet transform of the two registered input images (Infrared and Visible) together with the fusion rule. Then, the inverse wavelet transform is computed, and the fused image is reconstructed.

## II. IMAGE FUSION

The general image fusion process is to perform a multi-scale transform (MST) on each source image, then construct a composite multi-scale representation from these according to some specific fusion rules as shown in Fig.1

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# IMPLEMENTATION OF EXPLOITING MODIFICATION DIRECTION (EMD) - A STEGANOGRAPHY TECHNIQUE USING RASPBERRY PI

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**Abstract** – Exploiting Modification Direction (EMD) is a spatial domain image steganography technique to conceal secret data into digital images. In this paper, basic EMD method is explained and also two level method is explained. From results it can be seen that two level EMD is having twice the embedding rate than basic EMD by compromising stego image quality. It can also be seen that two level EMD provides more security than basic EMD. Later raspberry pi –a general purpose hardware module is used to implement extraction algorithm of two level EMD.

**Index Terms** - Exploiting Modification Direction (EMD), Steganography, Stego image

## I. INTRODUCTION

Now a day, internet is the key part of human's day to day life. Since for various kinds of transactions internet is a key element day by day its usage is increasing. Generally, with the help of internet, we can send various kinds of digital messages or information. Although internet provides ease of communication and low cost way there are many kinds of dangers hidden behind its advantages. For ex. secret information can be leaked, changed or being used on any unauthorized cases by hackers during data communication from transmitter to receiver. Thus, there is a necessity to avoid all the kind of unknown third party interference with the system. For this reason, a method is developed known as data hiding. Basically, it

deals with hiding of secret message inside the cover image so that no one has any idea about hidden secret message. Such image is called as stego image. Later this stego image is successfully transmitted to its desired recipients where secret data is taken out from the stego image. This method is known as steganography.

Up till now, different data hiding methods were proposed and generally maximum data hiding methods are using LSB (least significant bites) position to conceal the confidential data. Means first confidential information is converted into binary format then it is replaced by least bit. [1, 2, 3]

EMD is a steganographic embedding method [5] used for digital images in which n cover pixels carries each secret digit in  $(2n+1)$  ary notational system. Here, only one cover pixel is either increased or decreased by 1 or remain same. In general, there are  $2n$  possible ways of alteration for each group of n cover pixel. These  $2n$  ways of modification and one case in which no pixel is changed form  $(2n + 1)$  different values of a secret digit. Since the direction of modification of cover pixel is fully exploited here thus this method is called EMD which achieves high embedding efficiency as compared to other techniques.

Low embedding rate is one of the disadvantages of basic EMD. So it is possible to overcome it with the use of two level EMD [6] in which each pixel group can successfully carries two secret digits. To implement this two level embedding strategy is used. For first level embedding, first secret digit is embedded into

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**COMPARATIVE EVALUATIONS OF SURFACE ROUGHNESS AND CUTTING  
FORCES DURING HARD TURNING UNDER DRY AND COMPRESSED AIR  
COOLING MEDIUM**

**Suryakant Thorbole, R.N. Patil, Satish Chinchanikar**

<sup>1</sup> M.Tech. Scholar Mechanical Engineering Department, Bharati Vidyapeeth Collage of Engineering, Pune, India

<sup>2</sup> Production Engineering Department, Bharati Vidyapeeth Collage of Engineering, Pune, India

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**ABSTRACT**

In this present work, an experimental investigation through mathematical modelling was carried out to study the effects of different cooling mediums and cutting parameters on surface roughness and cutting forces, during the hardturning of hardened AISI 52100 steel ( 60±2) HRC. Experiments were performed using PCBN insert under dry and compressed air cooling medium. Experimental observations indicates that hard turning under compressed air cooled condition produced lower values of surface roughness and cutting forces. However, there is no significant effect of cutting speed on the surface roughness. Compressed air lubrication have proved to be more productive with better surface finish and reduced cutting forces. It has been observed that surface roughness gets affected mostly by feed and not by depth of cut. Cutting forces changing randomly as per change in cutting speed.

**KEYWORDS:** RSM, PCBN, Hard Turning, Cutting forces, Surface roughness

**INTRODUCTION**

In recent years, with continuous development in cutting tool materials and cutting tool technology, it has become possible to machine harder materials having hardness up to 65HRC. Now a day's machining of hard turning is an interesting subject in industry and research. Hardened steels are mostly utilized in automobile, die gear, bearing industries. Therefore advanced technologies required for machining of hardened steel with higher material removal rate (MRR). Hard turning is conducted on materials with hardness with the range of 45-65 using different types of cutting tools such as coated carbide inserts, CBN, coated CBN insert and PCBN[1].

Even though grinding is producing good surface finish research on hard turning indicates that, it minimises the machining time up to 65 times for conventional turning. From literature survey it is high speed, low feed and low depth of cut finishing process. In present study cutting speed, feed and depth of cut as indicated in the following table 1. PCBN inserts are more suitable for this type of operation, because of high hardness, wear resistance and chemical stability [1]

*Table 1: machining process parameters used in experimentation*

Parameters	Levels				
	-1.66	-1	0	+1	+1.66
Cutting speed (m/min)	100	125	150	175	200
Feed rate (mm/rev)	0.1	0.15	0.2	0.25	0.3
Depth of cut (mm)	0.1	0.2	0.3	0.4	0.5

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2165	44403	The Lancet Public Health	Univ	Science		24682667		The Lancet	Reject:Low Score
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2167	44413	G - Journal of Enviornment, Science and Technology	Univ	Science	2322021X	23220228		Grace and Peace Welfare Society (GPWS)	Reject:Low Score
2168	44425	shodhpravaha	Univ	Multidiscip	2231413X			Academic Staff College Banaras Hindu University, Varanasi	Reject:Low Score
2169	44444	Knowledge Hub	Univ	Social Scier	09736425			Rajiv Academy for Technology and Management	Reject:Low Score
2170	44447	The Empirical Economics Letters	Univ	Social Scier	16818997			Department of Economics, Rajshahi University, Rajshahi 6205, Bangladesh	Reject:Low Score
2171	44448	Journal of Livestock Biodiversity	Univ	Science	09731865			Society for Conservation of DomesticAnimal Biodiversity	Reject:Low Score
2172	44449	M â€“ Inifiniti Journal of Management	Univ	Social Scier	09737197			Sri Sai Ram Institute of Management Studies	Reject:Low Score
2173	44464	East - West Journal of Mathematics	Univ	Science	01252526	1513489X		Chiang Mai University * Faculty of Science	Reject:Low Score
2174	44476	Research Demagogue	Univ	Social Scier	23501081			Department of English, Yashvantrao Chavan Arts and Science Mahavidyalaya,	Reject:Low Score
2175	44506	Journal of Calcutta Mathematical Society	Univ	Science	00800659			Calcutta Mathematical Society	Reject:Low Score

# Design, Development and Optimization of Hydraulic Press

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**Abstract**— A hydraulic press is a machine using a hydraulic cylinder to generate a compressive force. Frame, hydraulic cylinder and press table are the main components of the hydraulic press. In this project press frame, cylinder and press table are designed by the design procedure. They are analyzed to improve their performance and quality for press working operation. Using the optimum resources possible in designing the hydraulic press components can effect reduction in the cost by optimizing the weight of material utilized for building the structure. An attempt has been made in this direction to reduce the volume of material. So in this paper we consider an industrial application project consisting of mass minimization of H frame type hydraulic press. This press has to compensate the forces acting on the working plates and has to fulfill certain critical constraints. Here we use FEA implementation for analysis and optimization of hydraulic press.

**Keywords**— Hydraulic press, Frame Structure, FEA, Optimization, Stress Analysis.

## I. INTRODUCTION

Presses are one of the most commonly used machine tools in industry for the forming of different materials. In the past, for the pressing tasks in industry, mechanical presses were more frequently used, but nowadays hydraulic presses take precedence due to their numerous advantages, such as: full force throughout the stroke, moving parts that operate with good lubrication, stroke that can be fully adjustable which contributes to the flexibility of application, built in overload protection, can be made for very large force capacities, silent operation and more compact. Hence a hydraulic press is a machine that makes use of the pressure exerted on the fluids to crush, straighten or mould. The concept of the hydraulic press is based on Pascal's theory, which states that when pressure is applied on fluids in an enclosed system, the pressure throughout the system always remains constant. In hydraulic press, the force generation, transmission and amplification are achieved using fluid under pressure. The liquid system exhibits the characteristics of a solid and provides a very positive and rigid medium of power transmission and amplification. In a simple application, a smaller piston transfers fluid under high pressure to a cylinder having a larger piston area, thus amplifying the force. There is easy transmissibility of large amount of energy with practically unlimited force amplification. This paper describes design, development and manufacturing of multi-purpose H-frame hydraulic press. For mass minimization, we use standard steel sections instead of plates. Due to this, the fabrication of hydraulic press frame also becomes simple. ANSYS has been used for the analysis; the main aim is to reduce the weight of the hydraulic press without compromising on the quality of the output. This particular press is used for a variety of tasks from doing mechanical work to straightening or intentionally bending structural components. It is also used to take force related measurements such as spring rates of coil and leaf springs.

## II. DESIGN

The principal parameters of the design included the maximum load (200 kN), the distance the load resistance has to move (stroke length, 500 mm), the system pressure (250 bar), the cylinder area (bore diameter = 100 mm) and the volume flow rate of the working fluid. The critical components that require design includes the frame, the hydraulic cylinder and the press table.

### A. Design of Press Frame

Machine frame is the most important part of the machine. It transfers all the forces that are produced during working of machine to the ground. It provides strength and stability to the machine during operation. The size and shape of machine structure should be such that it not only provides safe operation but also working stress and deformation do not exceed specific limit. Before designing the frame structure all the DFMA, Ergonomics constraints should be well understood.

**A.Y**  
**2014-15**



2083	43847	International Journal for Advance Research in Engineering and Technology (IJARET)	Univ	Science			23206802		IJARET	Reject:Low Score
2084	43851	International Journal of Mathematical Sciences and Computing	Univ	Science	23109025				Pajoy Journals	Reject:Low Score
2085	43870	Sodh Sanchayan	Univ	Social Scier	09751254				Shodh Sanchayan	Reject:Low Score
2086	43874	Quarterly journal of management development	Univ	Social Scier	04486175				Kent State University * Comparative Administration Research Institute	Reject:Low Score
2087	43879	GSTF Journal of Law and Social Sciences (JLSS)	Univ	Social Scier	22512853	22512861			Global Science and Technology Forum	Reject:Low Score
2088	43892	Internatinal Journal of Current advanced Research (ijcar)	Univ	Multidiscip	23196505	23196475			IICAR Publication	Reject:Low Score
2089	43894	Global Journal of Advance Research	Univ	Multidiscip	23945788				GJAR	Reject:Low Score
2090	43903	Journal of the Korean Society for Industrial and Applied Mathematics	Univ	Science	12269433	12290645			Korean Society for Industrial and Applied Mathematics	Reject:Low Score
2091	43906	International Journal of Researches in Bioscience, Agriculture & Technology	Univ	Science			2347517x		VMS, India	Reject:Low Score
2092	43913	International journal of applied Home science	Univ	Multidiscip	23941413	23941413			Tirupati Journal Solutions	Reject:Low Score
2093	43919	Jai Ma Saraswati Gyandayini	Univ	Social Scier	24548367				Gwalior: JMS Institute of Law	Reject:Low Score
2094	43922	The International Art in Early Childhood Research Journal	Univ	Social Science			18370020		Armidale : University of New England	Reject:Low Score
2095	43923	Internation Journal of Advanced Research in Electronics and Communication Engineering	Univ	Science	2278909x				IJARECE	Reject:Low Score
2096	43927	Natura Montenegrina	Univ	Science			18007155		Prirodnjacki Muzej Crne Gore,Natural History Museum of Montenegro, Montenegro	Reject:Low Score

# Grading of Soybean Leaf Disease Based on Segmented Image Using K-means Clustering

Sachin.B.Jadhav, Prof.Dr.Sanjay B Patil

## Abstract—

Traditional method used for disease scoring scale to grade the plant diseases is mainly based on naked eye observation by agriculture expert or plant pathologist. In this method percentage scale was exclusively used to define different disease severities in an illustrated series of disease assessment keys for field crops. The assessment of plant leaf diseases using this approach which may be subjective, time consuming and cost effective. Also accurate grading of leaf diseases is essential to the determination of pest control measures. In order to improve this process, here we propose a technique for automatically quantifying the damaged leaf area using k means clustering, which uses square Euclidian distances method for partition of leaf image. For grading of soybean leaf diseases which appear on leaves based on segmented diseased region are done automatically by estimating the ratio of the unit pixel expressed under diseased region area and unit pixel expressed under Leaf region area. For experiment purpose samples of Bacterial Leaf Blight Septoria Brown spot, Bean Pod Mottle Virus infected soybean leaf images were taken for analysis. Finally estimated diseased severity and its grading is compared with manual scoring based on conventional illustrated key diagram was conducted. Comparative assessment results showed a good agreement between the numbers of percentage scale grading obtained by manual scoring and by image analysis. The result shows that the proposed method is precise and reliable than visual evaluation performed by pathologist.

Index Terms— CIE L\*a\*b, Disease Region Area, Disease Severity, K-Means

## I. INTRODUCTION

Soybean Leaf diseases like Bacterial Leaf Blight, Septoria Brown Spot, and Bean Leaf pod Mottle are cause significant reduction in yield loss and lead to affect quality of soybean Products [1], thus influence economy and farmers life. An effective way to control soybean foliar diseases is by applying fungicides. To test the method for disease assessment, black and white drawings from a manual of disease assessment keys showing foliar diseases with different disease severities [2]. Although there is an industrial recognized corresponding standard to grade the leaf spot disease [4-7], the naked eye observation method is mainly adopted in the production practice. Because of the difference of personal knowledge and practical experience; the same

samples are classified into different grades by different experts. Therefore, the result is usually subjective and it is impossible to measure the disease extent precisely. Although grid paper method can be used to improve the accuracy, it is seldom used in practice due to cumbersome operation process and time-consuming. Therefore looking for a fast and accurate method to measure plant disease severity is of great realistic significance. Since the late 1970s, computer image processing technology is applied in the agricultural engineering research, such as agricultural products quality inspection and classification, the crop growth state monitoring, plant disease and insect pest's identification, and other agricultural robot [8, 9]. With the recent development in the field of image processing and pattern recognition techniques, it is possible to develop an automation system for disease assessment of plant leaf based on the visual symptoms on leaf image.

The plant disease scoring is important procedure to develop diagnostic plant and investigate resistant varieties to the disease. Conventionally, plant pathologists score the disease level based on their own discretion using illustrated diagram key for particular disease. The various researchers investigated their methods for assessment key of disease severities for different plant diseases which are outlined as follows:

W. Clive James[3] developed method for series of assessment keys for plant diseases in which percentage scale was exclusively used to define different disease severities in an illustrated series of disease assessment keys for cereal, forage, and field crops. The standard area diagrams were accurately prepared with an electronic scanner. Procedures for assessing the different diseases are outlined in order to achieve some degree of standardization in disease assessment methods.

Paul Vincelli and Donald E. Hershman [4] developed a diagram key for classifying the severity of soybean leaf disease into 10 levels. In his work he had investigated procedure for rating disease in Corn, Soybean, and Wheat.

Shen Weizheng and Wu Yachun [5] developed method for segmentation methods to analyze spot disease of soybean in which thresholding is done by Otsu method and disease spot regions were segmented by using Sobel operator to examine disease spot edges. Finally plant diseases are graded by calculating the quotient of disease spot and leaf areas.

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Prof.Dr.Sanjay. B. Patil, Principal M.B.T Campus, Islampur, Shivaji University Kolhapur.

4015	47251	TIME'S JOURNEY	Univ	Social Scier	22786546			Institute of Management Study, South 24 Parganas, kolkata	Reject:First Criteria
4016	62752	Journal of Computational Engineering	Univ	Science	23567260			Hindawi Publishing Corporation	Reject:First Criteria
4017	62762	Oceanographic Literature Review	Univ	Science	09670653			Elsevier	Reject:First Criteria
4018	62773	Procedia Earth and Planetary Science	Univ	Science	18785220			Elsevier	Reject:First Criteria
4019	64047	The Journal of Accounting and Finance	Univ	Social Scier	09709029			Research Development Association, Jaipur	Reject:First Criteria
4020	47721	International Journal of Advance Research in Science & Engineering	Univ	Science	23198346	23198354		A R Research publication	Reject:First Criteria
4021	45435	International Journal Of Advanced Studies In Computer Science And Engineering(IJASCSE)	Univ	Science	22787917			International association of Academicians, Scholars, Scientists & Engineers	Reject:First Criteria
4022	48243	International Journal of Advances in Remote Sensing & GIS	Univ	Science	22779450			IPA, India	Reject:First Criteria
4023	43300	Inventi Impact - Med Chem	Univ	Science	2229421X	09767541		Inventi Journals Pvt. Ltd	Reject:First Criteria
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4030	64023	Advances in Social Work	Univ	Arts & Hum	15278565	23314125		Spring	Reject:First Criteria
4031	47171	American Journal of Educational Research	Univ	Multidiscip	23276126	23276150		sciepub	Reject:First Criteria
4032	43988	American Journal of Sports Science and Medicine	Univ	Science	23334592	23334606		Science and Education Publishing Co. Ltd	Reject:First Criteria

# CLEANING IN PLACE IN PHARMACEUTICAL INDUSTRY USING PLC AND SCADA SOFTWARE

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## ABSTRACT

*In pharmaceutical industries proper hygiene should be maintained to ensure the proper quality. This paper focuses on the advanced method to clean the pharmaceutical equipments like tanks, filters, pipes, valves, etc. This technique will provide Cleaning of equipment In Place without disassembling the equipments known as CIP. This paper outlines the method of conversion of manual cleaning towards the fully automated cleaning and making the plant environment safer. Automation is done using PLC and SCADA Software. There are three tanks involved in this method filled with cold water, hot water and caustic water respectively having level and temperature sensors and circulated through a circuit of tanks or lines then return to central reservoir allowing reuse of chemical solutions to clean the equipments. The water flow from these tanks is controlled by number of valves. Time, temperature and mechanical forces are manipulated to achieve maximum cleaning.*

**Keywords:** Automation, CIP, Pharmaceutical Industry, PLC, SCADA, Sensors.

## I. INTRODUCTION

Industries that require high level of hygiene rely on CIP and they include dairy, beverage, brewing, pharmaceuticals, processed foods and cosmetics[1]. CIP Automation is basically a difficult part of the automation process. In many conditions it is more complex to automate the cleaning process than to make the product since the final CIP automation sequence is often defined after process equipment is build and tests are performed. Using CIP is beneficial to industries because cleaning is more faster, also it requires less human power. CIP is more repeatable and focuses on less chemical risk to cleaning operator.

Cleaning in place (CIP) technique provides significant advantages to manufactures as it provides cleaning of equipments in run time at lower costs which improves product quality and plant hygiene. In order to keep less human interference in process here PLC (Programmable Logic Controller) is used. SCADA(Supervisory Control And Data Acquisition) screen is developed in order to control plant and monitor entire system from control room. This minimises errors and faults made by human. The increase of cleaning efficiency in CIP systems is playing a key role in enhanced production. Higher efficiency leads to both, improved hygienic conditions as well as shorter downtimes and therefore to lower production costs[3].

## II. DRAWBACK OF CONVENTIONAL SYSTEM

In conventional systems plant equipments are cleaned by disassembling them. Which requires cleaning operator to enter into the plant and also to handle the hazardous chemicals for cleaning which is definitely not safe. Conventional method of cleaning is also time consuming which is not desirable in any industry. This is

3007	62741	Journal of Economic Geology and Georesource Management	Univ	Science	09734384			SASEG, Delhi	Reject:Low Score
3008	62743	International Journal of Research in Information Technology	Univ	Science		20015569		Blue Eyes Intelligence Engineering & Science Publications Pvt. Ltd	Reject:Low Score
3009	62748	International Journal of Latest Engineering Research and Applications (IJLERA)	Univ	Science	24557137			IJLERA Publications	Reject:Low Score
3010	62756	Annals of Innovation and Entrepreneurship	Univ	Social Scier	20007396			Coaction Publishing	Reject:Low Score
3011	62758	Excel International Journal of multidisciplinary Managemnt Studies	Univ	Science	24498834			ZIRAF Publications,	Reject:Low Score
3012	62761	Akasharam Sanghoshthi (International)	Univ	Arts & Hun	20026969			Delhi	Reject:Low Score
3013	62770	Geographical Education	Univ	Science		22040242		Australian Geography Teachers Association Ltd	Reject:Low Score
3014	62771	International Journal of Instructional Media	Univ	Social Science		00921815		Research gate	Reject:Low Score
3015	62774	Vertebrata Plasitica	Univ	Science	10009418			Chinese Academy of sciences/science press	Reject:Low Score
3016	62776	Volumina Jurassica	Univ	Science	17313708			Polish Geological Institute	Reject:Low Score
3017	62780	Trans Asian Journal of Marketingt & Research	Univ	Social Scier	22790067			Asian Research Journals	Reject:Low Score
3018	62783	Eurasian Journal of Forest Science	Univ	Science		21477493		www.eurasscience.com/ejeifs	Reject:Low Score
3019	62786	SAMPRESHAN	Univ	Social Scier	09764410			Department of Journalism and Mass Communication, M.G. Kashi Vidyapith, Varanasi.	Reject:Low Score
3020	62787	Socialistas Galaxia	Univ	Arts & Hun	23951117			PCM SD College, Jalandhar	Reject:Low Score
3021	62790	The Journal of Technology Studies	Univ	Social Scier	10716084	15419258		Epsilon Pi Tau, Inc., Verginia tech, Digital Library and Archives	Reject:Low Score
3022	62796	American Journal of Numerical Analysis	Univ	Science	23722118	23722126		Science and Education	Reject:Low Score



## Natural Language Database Interface with Probabilistic Context Free Grammar

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### Abstract

A Natural Language Interface to a Database (NLIDB) is a system that allows the user to access information stored in a database by typing requests expressed in some natural language. (NLIDB) are systems that translate a natural language sentence into a database query NLDBI system including its probabilistic context free grammar, which can be used to construct the parse tree, an algorithm to calculate the probabilities. We specify the model for helping the user with queries depending up on probabilistic context free grammar (PCFG) to relational database.

**Keywords:** NLDBI, Probabilistic Context Free Grammar, SQL Translator, Experimental Methodology

### 1. NLDBI

NLDBI (Natural Language Database Interface) is a system that allows users to access a database in natural language and has been a popular field of study. NLDBI allows the users to access the database even though they doesn't have the database dependent SQL Queries. User enters his query with the help of interface. As all the employees in an organization may not be aware of the SQL queries so the user cannot access the database content directly. The user who has the knowledge of the database querying language can enter the query and search in the database. The users face a huge problem as they may not be aware of the database dependent languages. As to provide a interface to the users such that they can enter the query in the English as most of the users of the system are familiar with the English language. The users enter his query in the general English language the system is responsible for understanding the query parse and translate into an SQL query.

### LUNAR (1973)

This system comes in early seventies (1973).[2] The system LUNAR science Natural language information system which was used to serve queries regarding MOON ROCKS. It syntactically analyzed language queries and then ran

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Science;Social Sciences(all)

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## A PHASE-BASED IRIS RECOGNITION ALGORITHM

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**Abstract-** The increase demand in security system concern to issues such as person identity and theft detection the need of a new reliable security system. A biometric system provides automatic identification of an individual, based on a unique feature or characteristic possessed by the individual. Iris recognition is regarded as the most reliable and accurate biometric identification system. Iris recognition is perhaps the most accurate means of personal identification due to uniqueness of the patterns contained in each iris. The iris recognition system consists of an automatic segmentation system that is based on edge detection and Hough transform, and is able to detect the circular iris and pupil region and occluding eyelids and eyelashes. The extracted iris region is then normalized into a rectangular block with constant dimensions to account for imaging inconsistencies. Finally, the image matching algorithm which specifically focuses on the characteristics of the phase components obtained from two-dimensional Fourier Transformation of an image. The Phase Only Correlation (POC) and Band Limited Phase Only Correlation (BLPOC) are the most fundamental transformations, the features of which include superior discrimination capability over the ordinary recognition system.

**Keywords-** Biometric, Iris recognition, edge detection, Hough Transform, Phase based Image Matching Algorithm

### I. INTRODUCTION

With the advent of modern technology and services in life, human activities and transactions have increased, in which quick and reliable personal identification is necessary. Examples contain passport control, computer login control, bank automatic teller machines and other transactions authorization, premises access control, and security systems generally. All such identification efforts stake the common goals of speed, reliability and automation. The use of biometric indicia for identification purposes requires that a particular biometric factor should be unique for every individual, readily measurable, and invariant over time. Biometrics such as signatures, photographs, fingerprints, voiceprints and retinal blood vessel patterns all have significant drawbacks. Though signatures and photographs are economical and easy to obtain and store, they are difficult to identify automatically with guarantee, and can be easily forged. Electronically recorded voiceprints are susceptible to changes in a person's voice, and they can be simulated. Fingerprints or handprints require physical contact, and they also can be counterfeited and marred by artifacts. Human iris on the other hand as an internal organ of the eye and as well protected from the external environment, yet it is easily observable from within one meter of distance makes it a perfect biometric for an identification system with the simplicity of speed, reliability and automation.

Biometric personal identification has been largely motivated by the increasing requirement for security in a networked society. The traditional way of identifying people is via possession and knowledge. Possession is the method that uses a physical item to gain access to the security area, e.g. identity cards, smartcards, tokens etc. Knowledge is the method to gain authorization by the use of something that only the authorized people know, e.g. passwords, PIN numbers, security codes etc. However, physical items can be lost or stolen and password can be forgotten or guessed. Biometric recognition is one solution to the problem. Biometric recognition is the application of science to measure individual's properties. These properties can be a behavioral or a physical feature. Unlike

2747	48455	Gurukul International Multidisciplinary Research Journal (GIMRJ)	Univ	Social Science	23948426		Mr. Mohan Hanumantrao Gitte, Beed	Reject:Low Score
2748	48459	Multi - disciplinary Scientific Reviewer	Univ	Multidisciplinary	23939893		Online Research Book Publication	Reject:Low Score
2749	48465	Academy Law Review	Univ	Social Scier	22785108		Cochin, Kerala	Reject:Low Score
2750	48472	International Journal of Physical Education and Sports Sciences, (IPESS)	Univ	Social Scier	22313745		www.ignited.in, India	Reject:Low Score
2751	48473	Forest Review	Univ	Science	05859069	18579507	UKiM Faculty of Forestry in Skopje, Macedonia	Reject:Low Score
2752	48476	ICON - Journal of Archaeology and Culture	Univ	Arts & Hun	23477032		Wakankar Rock Art and Heritage Welfare Society, Bhopal and Research India Press, New Delhi	Reject:Low Score
2753	48479	Indain Journal of Heterocyclic Chemistry	Univ	Science	09711627	24564311	www.connectjournals.com	Reject:Low Score
2754	48481	Advances in Materials and Processing Technologies II	Univ	Science	97833785		Trans Tech publications	Reject:Low Score
2755	48482	KILA JOURNAL OF LOCAL GOVERNANCE	Univ	Multidiscip	2319930X		Kerala Institute of Local Administration (KILA) Mulamkunnathukavu P O, Thrissur - 680 581, Kerala, India,	Reject:Low Score
2756	48485	Journal of Content, Community & Communication	Univ	Arts & Hun	23957514		Amity School of Communication, Amity University Madhya Pradesh, Gwalior	Reject:Low Score
2757	48486	INTERNATIONAL JOURNAL OF ENGINEERING SCIENCES AND RESEARCH TECHNOLOGY	Univ	Social Scier	22779655		nternational Journal of Engineering Sciences & Research Technology	Reject:Low Score
2758	48487	Jyotirmay Research Journal of Education	Univ	Multidiscip	24536070		Madhumay Educational and Research Foundation	Reject:Low Score
2759	48489	International Journal of Legal Research and Studies (On line Journal)	Univ	Social Scier	2456608X		Thesis Publication	Reject:Low Score

# INTERNATIONAL JOURNAL OF ENGINEERING SCIENCES & RESEARCH TECHNOLOGY

## Recognition of Bimodal Biometric System using Transformation Techniques

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### Abstracts

A wide variety of systems requires reliable personal recognition schemes to confirm or determine the identity of an individual requesting their services. In this paper, recognition of Iris and Fingerprint provides easiest way security and faster processing. It ensures data security and protection of system from unauthorized users as well. First part, Iris template is generated from Iris image. Iris features are generated by applying Discrete Wavelet Transformation (DWT) and Discrete Cosine Transformation (DCT) on Iris Template. Second part focus on fingerprints; the Fingerprint is preprocessed to get Region of Interest. Using DWT and Fast Fourier Transform (FFT), features of Fingerprints are obtained. Final feature set is generated using concatenation. The final feature set is compared with stored database using Euclidean distance matching to obtain exact match depending upon threshold value. We check False Acceptance Rate (FAR) and False Rejection Rate (FRR) at different threshold level.

**Keywords:** DWT, DCT, FFT, Euclidean distance, FAR, FRR.

### Introduction

Recognition using single biometric trait is not sufficient. This system performs better for certain

assumptions but fails when the biometric data available is noisy, also fails in case of unavailability of biometric template. Limitations of unimodal biometric systems can be overcome by using multimodal biometric systems which refers to the use of a combination of two or more biometric modalities in verification / identification system [6].

The most widely used method for recognition for person is fingerprint and iris [5]. The reason for chosen these two biometric are:

- (1) Iris has high degree of randomness as no two iris are alike and remains stable throughout person's life [1].
- (2) Fingerprint developed at fetal stage and remains same throughout person's life.

Multimodal biometric systems often provide promising results than any single biometric system [8]. The access to the secured area can be made by the use of ID numbers or password which amounts to knowledge based security. But such information can easily be accessed by intruders and they can breach the doors of security. This happens in case of net banking and highly secured information

zone. Thus to overcome the above mentioned issue multimodal biometric traits are used [4].

### Related works

Wildes [1] proposed the algorithm which first convert image into a binary edge map and then detect

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[620]

circle using Hough transform. Laplacian filter multiple scales is used to extract features. Finally, matching between two iris images is done using

normalized correlation. Arun Ross and Anil K. Jain introduced various scenarios that are possible in multimodal biometric systems, the levels of fusion are plausible and the integration strategies that can be adopted to consolidate information. S. Prabhakar, K. Jain, and J. Wang [2] presented a unimodal fingerprint verification and classification system. This system is based on a feedback path for the feature extraction stage, followed by a feature-refinement stage to improve the matching performance. N. Rath, R. M. Bolle, V. D. Pandit, and V. Vaish [6] proposed a unimodal distortion-tolerant fingerprint authentication technique based on gray-scale representation. Using the fingerprint minutiae features, a weighted graph of minutiae is constructed for both the query fingerprint and the reference fingerprint. The proposed algorithm has been tested on a large private database with the use of an optical sensor.

### Model

In this section the definitions of performance parameters, methodology is discussed

#### A. Definitions:

- (i) *False acceptance rate (FAR)*: FAR is the measure of the likelihood that the biometric security system will incorrectly accept an access attempt by unauthorized user [8].

2083	43847	International Journal for Advance Research in Engineering and Technology (IJARET)	Univ	Science			23206802		IJARET	Reject:Low Score
2084	43851	International Journal of Mathematical Sciences and Computing	Univ	Science	23109025				Pajoy Journals	Reject:Low Score
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# “Automatic wheelchair for physically disabled persons”

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*Abstract - This project is on automatic wheelchair for physically disabled people. A dependent user recognition voice system and ultrasonic and infrared sensor systems has been integrated in this wheelchair. In this way we have obtained a automatic wheelchair which can be driven using voice commands and with the possibility of avoiding obstacles by using infrared sensors and down stairs or hole detection by using ultrasonic sensors. The wheelchair has also been developed to work on movement of accelerometer which will help for the person whose limbs are not working. Accelerometer can be attached to any part of body of physically disabled person which he can easily move like head, hand etc. It has also provision of joystick for disabled person who can easily move his/her hand. Electronic system configuration, a sensor system, a mechanical model, voice recognition control, accelerometer control and joystick control are considered.*

**Index Terms** —accelerometer, infrared sensor ,joystick, robotics,ultrasonic, voice recognition

## I. INTRODUCTION

Robotics Wheelchairs extend the capabilities of traditional powered devices by introducing control and navigational intelligence. These devices can ease the lives of

many disabled people, particularly those with severe impairments by increasing their range of mobility.

For handicapped people human found a wheel chair which can be moved by using hands for those who don't have legs. But the peoples who don't have legs as well as hands cannot move their wheel chair self. They need some other person to move their wheel chair. But sometimes such person faces so many problems if they didn't get any person to move their wheel chair.

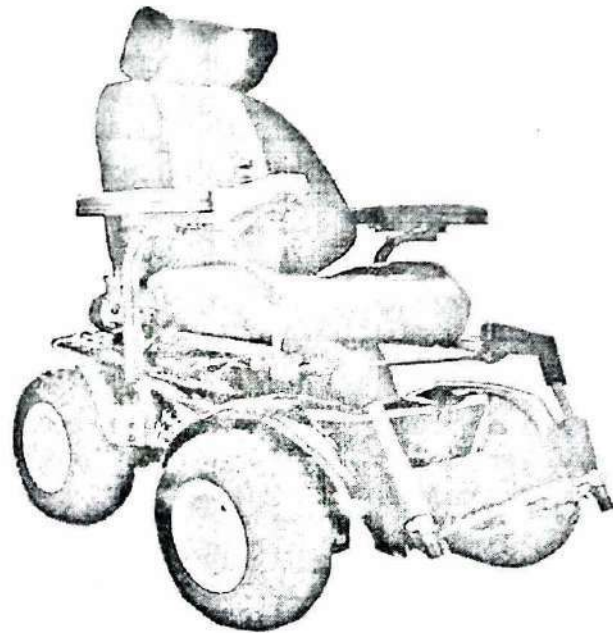


Fig1. model of wheelchair

This project “Auto Wheel Chair” aims to resolve the above mentioned issue. In this project we are going to make a wheel chair which can be controlled automatically as well as manually. This wheel chair controlled manually through head of the person sitting on it. He/ she just need to move his/her hand into the direction it wants to move by using accelerometer. In automatic control user just need to press keys for saved destination. Then the wheel chair will automatically move into the direction of saved destination by

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