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Title of the Book  
Global Environmental Governance, Policies and Ethics- II

## Bioremoval of Lead By Mangrove- Derived Cyanobacteria (*Synechococcus Elongatus ArkkI*)

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### Article Info

#### Article History

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### Abstract:


Mangrove derived unicellular cyanobacteria *Synechococcus elongatus* produced microbial biomass was tested as bioadsorbent for removal of lead in the artificial sewage. The significant percentage of lead removal was observed in dried biomass of *Synechococcus elongatus*. Further, the optimization and adsorption kinetics of lead removal process was done with 30 batch experimental setup by Centre Composite Design (CCD) of response surface methodology. The important process influencing factors were selected for the optimization process such as pH, temperature, adsorbent dosage and incubation period. *Synechococcus elongatus* dried microbial biomass recorded maximum lead removal of 85.84 % in sewage water under optimized condition of temperature (40°C) adsorbent dosage (0.63g.l<sup>-1</sup>), pH (9) at 60 minutes of incubation. This experiment proved that mangrove derived microbial biomass of *Synechococcus elongates* was a potent source for removal of toxic lead in waste water.

**Key words:** Cyanobacteria, biosorption, *Synechococcus elongates*, lead removal and Kinetic studies

### Contact Author

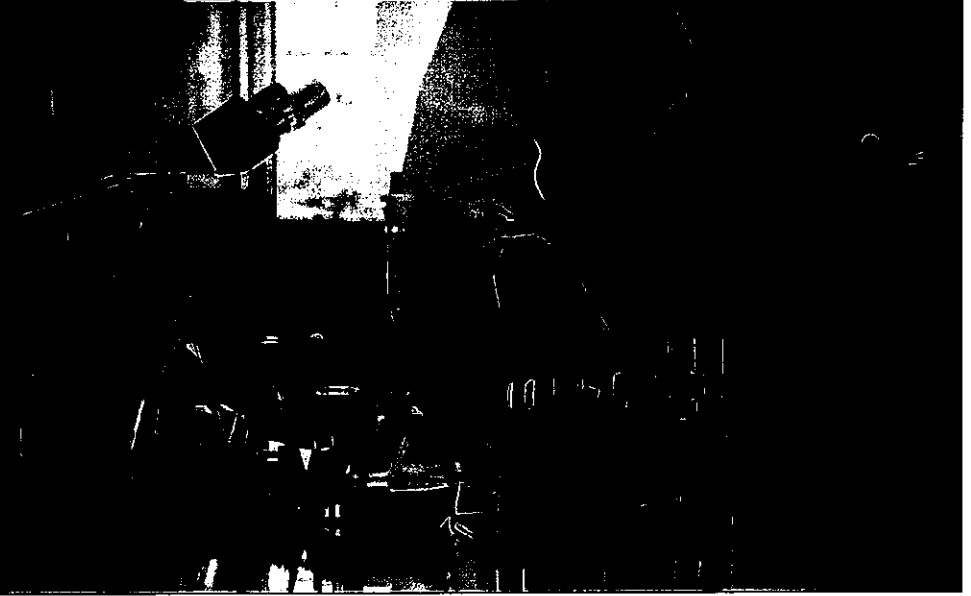
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Xylanases show great potential for industrial applications mainly for the bioconversion of lignocelluloses to sugar, ethanol, and other useful substances, clarification of juices and wines, improving the nutritional quality of silage and green feed and the de-inking processes of fungal xylanases and showed that the enzyme can be produced by a number of microorganisms including bacteria, yeasts and filamentous fungi such as Bacillus, Cryptococcus, Trichoderma, Aspergillus, Pencillium, Aureobasidium, Fusarium, Chaetomium, Phanerochaete, Rhizomucor, Humicola, Talaromyces and many more respectively. Xylanase is an extracellular enzyme which hydrolyses  $\beta$ -1,4 D-xylosidic linkages of highly polymerized and substituted  $\beta$ -1,4 linked D-xylobiose, xylotriose and glucuronosyl residues. The enzyme holds potential for the dehydration of plant cell wall materials. Due to their multidimensional role in fermentation processes xylanase have gained immense importance.

XYLANASE PRODUCTION -F. SPOROTRICHOIDES

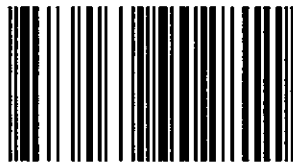


Thiruvengadam Shankar

## Xylanase production using Fusarium sporotrichoides



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Chapter - 14, Page: 238 - 253

# 14

## MEDICINAL VALUES OF *Muntingia calabura* LEAVES

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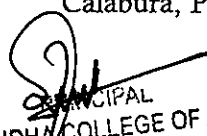
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### 1. Introduction

India is one of the most medico-culturally diverse countries in the world where the medicinal plant sector is part of a time honored tradition that is respected even today. Here, the main traditional systems of medicine include Ayurveda, Unani and Siddha. The earliest mention about the use of plants in medicine is found from Rig-Veda written during 4500 to 1600 BC. The World Health Organization (2003) has estimated that 80 % of the populations in developing countries were unable to afford pharmaceutical drugs and traditionally rely on phyto medicines (plant based) to sustain their primary health care needs. Plants are still a rich source of novel bioactive phytochemicals with therapeutic properties like anti-inflammatory, anti-cancer, antimicrobial and so on.

Medicinal plants are used as important therapeutic aid for abet human ailments and they served as a source of medicinal agents for thousand years. An impressive number of modern drugs were formulated from plants based on these traditional uses (Newman *et al.*, 2003). The species of *Muntingia calabura* belong to the family Elaeocarpaceae, it is one of the Philippine medicinal plants and widely distributed throughout the world (Bodke *et al.*, 2013). *Muntingia calabura* is commonly known as Jamaican cherry, strawberry cherry tree, jam tree, Chinese cherry, Madras Pea Pumpkin, Jam tree and Cotton Candy Berry, Singapore Cherry, Bird's Cherry, Calabura, Poor Man's Cherry, Panama Berry, Pazham (Fruit), Japanese cherry (India)

  
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# 12

## *Tridax procumbens* (COAT BUTTONS) – A GIFT OF NATURE: AN OVERVIEW

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### 1. Introduction

In the world India is one of the country which is well known for its indigenous valuable flora and fauna of an excellent therapeutic potential. Among the 12 mega biodiversity countries of world, India is a biggest source of rich vegetation and huge varieties of medicinally valuable plants which are the major part of people healthy life. Many developing countries and India using medicinal plants could be considered as a 'Living Tradition'. The dependence on plants constitutes a major component of cultural heritage in India which reflected on customs and lifestyles throughout the country (Binu *et al.*, 1992).

India having the rich background history of traditionally valuable medicine. In India different medicinal systems is practiced like Ayurveda, Unani, Siddha, Amchi and Homoeopathy. Many of the people utilize a large number of plants for the treatment of various diseases includes human and animal diseases. Those plants used for treatments are called as valuable" medicinal plants" (Gaikwadi *et al.*, 2003). It is no wonder that the one-fourth population of world i.e. 1.42 billion people, are using medicinal plants as home remedies for maintain our health and also depends on traditional medicines which are used for the treatment of various ailments (Reddy, 2004).

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# 13


## PHARMACOLOGICAL ACTIVITY OF *Morinda citrifolia* L (Noni)

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### 1. Introduction

Herbal and natural products of folk medicine have been used for centuries in every culture throughout the world. Scientists and medical professionals have shown increased interest in this field as they recognize the true health benefits of these remedies. "Let food be your medicine and let medicine be your food" was advised by the father of medicine, Hippocrates, over two millennia ago (Zhu *et al.*, 1995). *Morinda citrifolia* L. has been recognized as an important medicinal plant for treating various physiological disorders worldwide. *M. citrifolia* is commonly known as Noni or Indian mulberry in India (Potterat *et al.*, 2007). Noni has been used widely as a alternative and complementary therapy in many countries owing to its potent antioxidant activity and proven health benefits. Traditionally, it finds used as a therapeutic remedy to various diseases as an antihelminthic, analgesic, antibacterial, antitumor, anti-inflammatory, immunostimulant. Also it has proved beneficial in conditions like gastritis, skin diseases, respiratory infections, menstrual and urinary tract disorders, fever, diabetes and venereal diseases. The Polynesians utilized the whole Noni plant in their medicinal remedies and dye for some of their traditional clothes. The roots, stems, bark, leaves, flowers, and fruits of the Noni plant are all involved in various combinations in almost 40 known and recorded herbal remedies (Bruggnecate, 1992).

  
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## 2

# PHYTOCHEMICAL COMPOUNDS OF *Leucas aspera* L.

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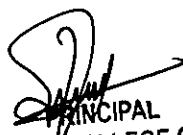
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### 1. Introduction

Nature is a richest source of medicinal plants diversity. Many novel drugs have been isolated from it and most of these novel drugs are based on their use in traditional medicine (Das *et al.*, 2011). In ancient days, the treatment of diseases is done by using medicinal plants, herbs due to their potential to cure diseases (Petrovska *et al.*, 2012). In developing countries the interest of medicinal plants is increasing as the herbal medicine have been reported as safe and also the adverse effect is low particularly when compared with synthetic drugs (Shaik *et al.*, 2016). Based on folklore medicine, the plants from the genus *Leucas* have different kinds of therapeutic activities (Babu *et al.*, 2016).

*Leucas aspera* belongs to the family Lamiaceae commonly known as 'Thumbai' (in Tamil) (Rai *et al.*, 2005) 'Thumbe', 'White dead nettle' (English), 'Dronapushpi', 'Chitrapatrika' (Sanskrit) (Press *et al.*, 2000). The whole plant is traditionally important because it has many therapeutic values. *Leucas aspera* flowers are used as stimulant, expectorant (treat coughs), aperients (relieve constipation), diaphoretic (inducing perspiration), insecticide and the flowers are mixed with honey and given to children to treat cold. The leaves are used as insecticides and mosquito repellent (Reddy *et al.*, 1993), the leaf juices are considered as a remedy for chronic rheumatism, psoriasis and other chronic skin eruptions (Rai *et al.*, 2005). For stomach pain and indigestion the plant extract was given with honey (Das *et al.*, 2011).

  
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# 14

## PROBIOTICS AS FEED ADDITIVE FOR BROILER NUTRITION

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### 1. Poultry

The term 'Poultry' refers originally to a rather wide variety of birds of several species, and it refers to them whether they are alive or dressed (slaughtered and prepared for market). The term applies to Chickens, Turkeys, Ducks, Geese, Swans, Guinea Fowl, Pigeons, Pen Fowl, Ostriches, Pheasants, Quill and other game Birds (Charles and Duke, 1978). Poultry is one of the fastest growing segments of agriculture and veterinary sector. However, of all these chickens are the large scale consumed birds in India.

### 2. The importance of nutrition

The impact of biotechnology in poultry nutrition is of significant importance. Biotechnology plays a vital role in the poultry feed industry. Nutritionists are continually putting their efforts into producing better and more economical feed. Good feed alone will not serve the purpose but its better utilization is also essential. Dietary changes as well as lack of a healthy diet can influence the balance of the microflora in the gut thus predisposing to digestion upsets. A well-balanced ration sufficient in energy and nutrients is also of great importance in maintaining a healthy gut. A great deal of attention has recently been received from nutritionists and veterinary experts for proper utilization of nutrients and the use of probiotics for growth promotion of poultry.




# Research Trends in Medicinal Plant Sciences

Volume - 6

Chief Editor

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# Chapter - 2

## The Potent Cytotoxic and Antitumor Properties of Methanol Extract of *Moringa oleifera* Leaves

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### Abstract

The present study demonstrates the potent cytotoxic and antitumor properties of methanolic extract of *Moringa oleifera* leaves. The leaves were collected from in and around Tiruchengode. The collected leaves were shade dried and powdered and the Methanolic extract was extracted using the Soxhlet apparatus. Preliminary qualitative analysis of the extract was done using standard procedure and the extract showed the presence of alkaloids, carbohydrates, steroids, proteins, saponins, fixed oils and fat, tannins, phenolic compounds, flavonoids, glycosides. *In vitro* cytotoxicity study was done by Trypan Blue Dye Exclusion method and MTT assay. Haematological parameters of tumor bearing mice on the day 14 were showed significant changes when compared to normal mice. The total WBC count, protein and PCV were found to increase with a reduction in the hemoglobin content of RBC. At the same time interval, MMO (200 and 400mg/kg) treatment could change these parameters near to normal. Maximum alternation occurred in the MMO treatment at the dose of (400mg/kg). There was significant reduction in the tumor volume of mice treated with MMO (200 and 400 mg/kg/p.o.). The present study provides clear evidence, that the extract of *Moringa oleifera* shows effective cytotoxicity against Ehrlich ascites carcinoma (EAC) cells in Swiss albino mice.

**Keywords:** *Moringa oleifera*, methanolic extract, MTT assay, cytotoxicity, antitumor

### Introduction

*Moringa oleifera* is commonly called as drumstick tree or horse radish tree which belongs to the family of *Moringaceae* [1]. *M. oleifera* is native to the sub-Himalayan tracts of Northern India. It ranges from tiny herbs to large trees which grow up to 5-10 m height [2]. *Moringa* is rich in nutrition with high

## **AN INSIGHT ABOUT GST RATES IN INDIA- AN EMPIRICAL STUDY.**

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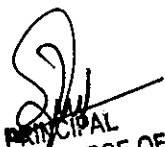
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### **ABSTRACT**

Transformations are an uninterrupted process. Any new law levied or any new bill implemented or changes implemented will leave an impression on the people in general. It is generally the common public who are been affected directly or indirectly by these new laws or new changes or new bill. Goods and service tax is paradigm shift in the taxation system, it is an indirect tax system introduced basically to overcome cascading of taxes. It is applicable throughout the country. It is the biggest restructuring in the economy. GST is applicable for all goods and services and the rates are charged under various slabs for various category of goods and services. Generally the GST rate slabs are 0%, 5%, 12%, 18%, 28% for different goods and services. Almost all indirect taxes are swapped by GST. Implementing GST has left lot of impact on our life, this paper highlights on how the implementation of GST has changed the lifestyle of the people and how day-to-day goods and services will pocket the end user's wallet. GST as name implies it is the tax on goods and service and it is a simplified tax. The main intention is to reduce the burden on the end users. But instead of charging one single tax rates, the common man are charged with different rates for different goods and services. This paper studies the effect of the GST in India and its impression on general public's financial plan and affect the end users wallet.

**\*\*\*\*\***



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## CUSTOMER AWARENESS AND SATISFACTION TOWARDS ORGANIC FOOD PRODUCTS IN NAMAKKAL (DT)

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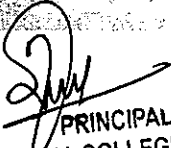
### ABSTRACT

The recent times, the environment has emerged as a hot issue for societies, governments in addition to business organization. Its significance originates from escalating environmental degradation such as solid wastes; ozone depletion, global warming and air pollution. Organic foods are foods that are produced using method that do not involve modern synthetic inputs such as synthetic pesticides and chemical fertilizers. Organic foods are also not processed using irradiation, industrial solvent or chemical food additives. It includes introduction of study, statement of problem, objectives of study, limitation of study, tools, review of literature, conclusion of study.

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## FOREIGN DIRECT INVESTMENT IN INDIA AND PAKISTAN - A COMPARATIVE ANALYSIS

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### Abstract

*Foreign direct investment (FDI) in India is a most important commercial or financial source for economic development in India. Many foreign companies do their investment directly into fast growing Indian business so that they can make use of business environment, take advantages of lesser or cheaper wages. India has become the most attractive emerging market for Global investors. Developing Countries like India has been facing the problem of deficit of savings, this problems can be overawed by FDI. Annual FDI inflows in India is expected to increase to US\$ 75 billion for next five years, as per a report by UBS. World Bank has reported that private investment in India is expected to grow by 8.8 percent in Financial Year 2018-19 when compared to 7.4 percent. The study highlights comparative study of FDI inflow in India and Pakistan and also highlights the trends of FDI in India. The study is based on secondary data which is been collected from the reports of the ministry of commerce and industry, Department of Industrial promotion and policy, Government of India, Reserve Bank of India.*

*Index Term: Foreign Direct Investment, Trends, FDI Inflows.*

### Introduction

FDI is a concept which was introduced in the year 1991 under Foreign Exchange Management Act (FEMA), by then finance minister Dr. Manmohan Singh. In 1990 an initial investment was \$ 1 billion. India stands second important place for investment where China stood first important destination for investment. The most important sectors that engrossed FDI are services, telecommunication, construction activities and computer software and hardware. In 1997 India accepted FDI in cash and carry wholesale. During these period India required approval from the government it was only in 2006 automatic permission was granted. FDI plays a very vital role in economic growth, and it is major financial source for economic development of India. Foreign companies or investors invest in FDI to take advantages of skilled labour, tax exemption,

cheaper labour etc. Companies receiving FDI from Foreign investors helps in generating various job employment, thus by developing the economic status etc. Indian government friendly policy administration have ensured that FDI keeps flowing into India hassle free. The Indian government have taken many initiatives to improve the flow of FDI. It also relaxed FDI norms for various service sector telecom, power exchanges, stock exchange etc.

According to Department for Promotion of Industry and Internal Trade, the FDI investment in India for April-December 2018 was US\$ 33.49 billion. The chemical sectors except fertilizers got highest FDI inflow of US\$ 6.06 billion, services sector US\$ 5.92 billion, Computer hardware and software received a FDI US\$ 4.75 billion, trading US\$ 2.34 billion. The total FDI equity inflows for the month of December was

## **EMERGING ECONOMIC SCENARIO IN ENTREPRENEURS: CHALLENGES AND OPPORTUNITIES**

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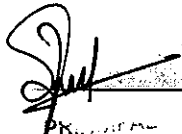
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### **ABSTRACT**

In the present economic scenario no country can afford to slow down the pace of its economic growth. The growth of economy business cycle must be in motion, products and services must be purchased. Now the one who can understand the market better will win the race and also contribute to country's economic growth. Till now we talk about the budding managers that Indian Inc. needs but now comes in picture the emerging people known as entrepreneurs. Entrepreneurs are the one who not only help in meeting their goal but by this way they cater the several needs of society knowingly and unknowingly with their excellent enterprising skills. With the increase of entrepreneurship activities all over the world there is a generation of productive and meaningful employment and these employment

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## **CUSTOMER PERCEPTION OF GREEN MARKETING**

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### **ABSTRACT**

The industry will be benefited once green marketing strategy like production and consumption, disposal of eco- friendly products, reduced production waste in both energy and material making products reusable and recyclable change is a very common phenomenon which can be seen anywhere whether it is business, economics or anything. Aim of the study is consumer buying is affected by the green marketing. How demand could be enhanced by pursuing the green strategies.

**\*\*\*\*\***

  
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## **A STUDY ON PROBLEM FACED BY WOMEN ENTREPRENEURS**

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### **ABSTRACT**

Women constitute around half of the total world population. The women who start up their business have to face some teething problems. Economic problem is the main problem faced by women entrepreneurs, while empowering and highest prospectus was found as compared to own business to women services. Form the present study it is identified the major problems faced by women entrepreneurs. The entrepreneurs play an important role in the economic and social development of the nation.

**\*\*\*\*\***

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## **POSITIVE NEGATIVE AND IMPACT OF SOCIAL MEDIA IN ONLINE MARKETING**

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### **ABSTRACT**

Online marketing is leveraging the unique capabilities of new interactive media to create new form of interactions and transaction between consumers and marketers. Also it can be considered as innovative way of marketing in digital marketplace which includes online advertising, online market research, online promotions and online pricing models. To make it successful there are different strategy such as Targeting, Product Strategy, Pricing Strategy, Distribution strategy and promotional strategy. This paper tries to identify and analyze the advantages and disadvantages of online marketing over traditional marketing. It also focuses to identify that how companies can be benefited with this. This paper also tries to determine the impact of online marketing on traditional market and society.

**\*\*\*\*\***

  
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STUDY ON THE WOMEN TEACHERS' PERCEPTION OF EMPOWERMENT  
PROCESSES IN EDUCATIONAL INSTITUTIONS



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**Abstract**

Human capital is considered the main factor in measuring the success of any organisation or educational institutions. Human empowerment the combined capability, determination and will power of people to attend goals of an organisation is only sustainable competitive advantage an Organisation can create. The educational institution reminds aggressive and economic only if it obtains, improves and utilizes the knowledge faster than its competition. Hence the study focuses on exploring the process and practices of empowerment in educational sector. The findings reveals that prevalence of educational sector in Tamilnadu and bring forth the challenges faced through light upon practices and highlights the future.

**Keywords:** Empowerment, Women Teachers', Educational Institutions.

**INTRODUCTION**

For numerous institutions, the ability administration is generally undiscovered and unused concept within the field of human asset administration in spite of demonstrating numerous times its significance and competitive advantage for the institution. Institutions don't have information of related to the techniques utilized in ability administration which are sent in higher education framework to bolster them and the viability of those techniques. Institutions and corporate are concerned with the abilities to form the Institution stand within the competitive time.

There's a 25% contrast appeared in steady loss rate which comes about in million\$ costs of organization to supplant a few experts for each 50th person position within the organization. (Jonathan et al, 2011). Ability administration is expanding its significance in corporate human asset administration which characterizes it is more profitable and attainable to create ability rather than obtaining and contracting ability from the exterior.

Empowerment administration hold 3 diverse conceptions agreeing to (Lewis and Heckmen's 2006): 1) collection of hones of human asset division, 2) human assets stream inside the organization, and 3) fulfilling, sourcing and creating ability of the representative. Supporting and leveraging the resource of ability administration for the ceaseless development is exceptionally critical for the organization well being and it hold equal importance as serving within the corporate division to somebody serve within the education field.

The development of the education segment completely depends on the different kind of the representative which holds as a workforce. It's the workforce who sets the picture and tone of the institution to move ahead. Subsequently, the enlisting of the correct workforce gets to be challenge for the institutions of the education and tall turnover may be a huge danger within the organizations. The misfortune of the staff all of a sudden impacts on the existing continuous scholarly plans in negative terms which come about into for the most part institutions fizzled to help administrative staff for the aptitude. The reason of the think about to conduct is to survey the method of ability administration taken after by institutions and distinguishing components which impact resources to remain within the organization. It too gives the conceptual system of worker maintenance of gifted

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# Customer Satisfaction on Organic Food Products in Namakkal (DT)

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**Abstract:** The adoption of organic production and processing is highly determined by market demand. This is reflected in consumer's awareness and fulfillment towards organic food products. Organic foods are foods that are produced using methods that do not involve modern synthetic input such as synthetic pesticides and produced using methods that do not involve modern synthetic inputs such as synthetic pesticides and chemical fertilizers. Organic buyers tend to be older and higher educated than who do not buy them. However, the main barrier to raise the market share of organic food product is consumer information.

**Keywords:** Organic, Production, Demand, Consumer, Produced, Selected.

## INTRODUCTION

Agriculture is currently changing into reworked into dynamic productive and profitable sector owing to ever-increasing demand for food products, so as to cope up with the food production target, a lot of stress is probably going to be to agricultural inputs. The presence of residues of insect powder in food commodities and alternative parts of the setting could be a matter of great concern. The main reasons some choose to consume organically grown foods is the thought that they are consuming little or no pesticide residue left on produce, they want to support an industry that is more gentle and has less negative impacts on the environment. Organic and natural foods are those produced by natural, without the use of any chemical fertilizers, pesticides or additives.

## REVIEW OF LITERATURE

Malie and Rennie (2016), assessed consumer perceptions towards organic food and found that food safety, human health and environmental concern along with sensory attributes such as nutritive value, taste, freshness and appearance influence organic food consumer preferences. Premium price continues to suppress organic food consumption. Understanding the potential of the organic food to become a genuinely mainstream market, consumers' perception regarding organic food consumption is influenced by five factors, namely food safety, price, environmental friendly, nutrition and sensory attributes. Food consumption patterns are ever-changing as a result of health and environmental issues.

Mehra and Ratna (2017) found that six significant factors were found to influence the attitude towards organic food, health, consciousness, and product information, value for money, accessibility and trust. Result of the study showed that women and younger consumers showed a positive attitude towards organic food and perceived consumption of organic food to be healthier food option. They were keen on getting product information and compared labels while selecting nutritious food. Women perceived consumption of organic food to be a healthier option.

Sharma and Bali in (2018) concluded that consumers are very much aware that organic food are good for health, these products are free from chemical which resulting in no side effects and do not cause harm to the consumers. The consumers living in urban Areas are more aware about organic food helps to reduce stress level and maintain an energetic lifestyle. Another factor this study found that respondents are willing to pay even higher prices because of it is beneficial for health.

## STATEMENT OF THE PROBLEM

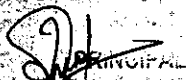
Natural organic food has plenty of advantages when compared to the non-organic food that have been processed with artificial preservatives and chemicals. Settling for these foods for everyday receipts can really assure of health benefits since these all natural and no harmful effects of pesticide and other chemicals. Purchasing and using for their general utilization the analyst demonstrates enthusiasm on the positive effects. To know the customer preference towards natural organic foods the study has been undertaken.

## OBJECTIVE OF THE STUDY

- ✓ To know the type of natural organic products preferred by the customers.
- ✓ To identify the purchase frequency of organic products.
- ✓ To study consumer awareness about organic food product.

## SCOPE OF THE STUDY

Organic food promotes a balance of human, other living organisms and the nature. It also promotes no artificial preservatives and best maintain the originality of food. This prevents excess use harmful ingredients and



## CHALLENGES IN E-COMMERCE

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### ABSTRACT

In this technical era, everything got changed into machine mode. Even in hotels the bearer is a robot. This is the example of revolution in the field of technology. In this article, I have analysed the challenges that we are going to be faced in E- Commerce due to this technology development. E- Commerce is nothing but doing business through Internet. Most of the business activities are carried through online. For that, first we have to access the net connection from the service provider. On the other hand the service providers like BSNL, JIO, Vodaphone are not able to provide the required services. So the base for e-commerce is a challenging one. Like this, this article clearly explores the challenges faced by the e-business concerns in a nutshell manner.

**Key Words:** E-Commerce, Challenges, E- Business

### INTRODUCTION:

In recent days we are using online for everything we want to purchase. E- Commerce is one of the main components for the development in the service sector. Consumers are able to consume their needs by using smallest & easiest procedures through online. They are searching their product, read the reviews, watch the product profile, add it into their cart, later they finalize the product they wish to buy after comparing the products in their cart. They just fill the necessary details which is simpler to use & pay the money through online mode. After completing the transaction they are able to track the movement of goods they have been purchased. Follow up messages will be sent by the company till its dispatch. This paper covers some of the challenges faced by the business entities for the successful transaction. The challenges are

1. Lack of Internet connectivity.
2. Low security protection.
3. Computer Illiteracy
4. Payment Issues.
5. English centric communication.

#### i) LACK OF INTERNET CONNECTIVITY:

Internet connection is like a heart of the business transaction. Without proper functioning of the internet nothing is possible. In India the availability of Internet connection is very low at 0.5 per cent of the population against 50 per cent in Singapore. The usage of computer in India is as low as 3.5 per thousand of population compared to 6 per thousand in China and 500 per thousand in US. This will affect the growth of e-business in India.

#### ii) LOW SECURITY PROTECTION.

The rate of cyber crimes in India is increasing in day to day manner. Cybercrime cases in India, registered under the IT Act, increased at a rate of 300 percent between 2011 and 2014. In 2015, there were 11,592 cases of cyber crime registered in India. It makes consumers to

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# Data Structures and Algorithms

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## An Effective Feature Extraction Based Particle Swarm Optimization with Support Vector Machine for Biomedical Mammogram Image Diagnosis

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**Abstract**— Breast cancer is a second significant reason for the increased mortality rate of women in both developing and developed countries. When abnormalities in breast cancer are identified in the earlier stage, there is a greater chance to increase the survival rate. This paper presents a new breast cancer diagnosis model using feature extraction and classification process. The presented model involves preprocessing, Hough transform based feature extraction, particle swarm optimization (PSO) with support vector machine (SVM) called PSO-SVM based classification. Initially, preprocessing takes place to remove the noise present in the image. Then, Hough transform based feature extraction process is carried out to extract the features exist in the image. Then, the PSO-SVM model is applied to classify breast cancer images into normal and abnormal. The validation of the presented PSO-SVM model takes place on MIAS dataset and the experimental outcome indicated that the presented model achieved a maximum accuracy of 94.61%.

**Keywords**— Cancer; Hough transform; SVM; mammogram

### 1. INTRODUCTION

In general, tumor is defined as a chronic and initial feature of breast cancer is the rapid growth of cells only in specific region of a body. The unwanted cell growth is considered to be a tumor. Breast malignancy is structured if the disease is initiated from the breast cell [1]. It assumed to be a major problem in medical domain in real time application. According to the survey of world social insurance society in 1960's a rapid improvement of breast cancer has been evolved in a few places [2]. The primary analysis of tumor could extend the lifetime, however, it is a gradual process. Here, mammography is applied to detect the tumor in an initial stage, a position as well as corresponding remedy for breast cancer. It is used to discover the tumor cells which are very small and complex to experience from widely investigated principle to determine the breast cancer. Breast imaging from mammography has been completed using lower values X beams including the higher goals as well as differentiation [3-5]. In addition, this model is applied for screening as well as to diagnose the breast cancer. Recently, Full Field advanced

mammography (FFDM) is used to keep away the superfluous biopsies. Due to the massive examination regarding breast disease is performed to build a computational method to promote the radiologist. It is a Computer supported outline as well as concluding technology.

Here, breast malignancy CAD technique is capable of providing an assist as it is imperative and essential to control the breast growth. Mammography provides assistance for radiologist to recognize major amount of mammogram pictures and to organize in a normal or abnormal manner [6]. In recent days, multi classification considers an applicable job in a therapeutic result. It offers a likelihood of faults as well as simulation outcome and offers a final outcome within a limited technique. The framework implementation is depending upon the techniques applied to divide the mammogram image as well as to highlight extraction process. The standard improving models such as histogram is used to hone the absorbing region of mammogram image units. The complexity upgrading process is carried out from the mingled area as well as close-by general problem. At the same time, several noises have affected the mammogram images such as salt and pepper, Gaussian, speckle and Poisson noise. Generally, the noise exists in the mammogram images undergo denoising by the use of linear filtering techniques such as mean and wiener filters.

Region of interest (ROI) is assumed to be improved boundaries of mammogram pictures. The classification is performed using ROI which applies general statistical morphological techniques. [6] developed a method comprising of three major steps as provided. In the initial step the unnecessary labels present in the image are removed. Secondly, it is based on intensity segmentation which is processed to avoid pectoral muscle. Thirdly, the extracted feature can be used for classification process. Once the segmentation is completed, the pectoral muscle Hough conversion is performed in ROI to obtain the related attributes. It is efficient model that determines a pattern. This step is assumed to be an image conversion model where the feature is extracted for specific image along with shape that is accomplished. It is also used to transform the actual image to 2D picture. The feature extraction is one of the major

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SYNOPSIS DC - DOCUMENTS CHECKLIST

# A Lightweight Secure Data Sharing Scheme for Mobile Cloud Computing

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**Abstract:** With the popularity of cloud computing, mobile devices can store/retrieve personal data from anywhere at any time. Consequently, the data security problem in mobile cloud becomes more and more severe and prevents further development of mobile cloud. There are substantial studies that have been conducted to improve the cloud security. However, most of them are not applicable for mobile cloud since mobile devices only have limited computing resources and power. Solutions with low computational overhead are in great need for mobile cloud applications. In this paper, we propose a lightweight data sharing scheme (LDSS) for mobile cloud computing. It adopts CP-ABE, an access control technology used in normal cloud environment, but changes the structure of access control tree to make it suitable for mobile cloud environments. LDSS moves a large portion of the computational intensive access control tree transformation in CP-ABE from mobile devices to external proxy servers. Furthermore, to reduce the user revocation cost, it introduces attribute description fields to implement lazy-revocation, which is a thorny issue in program based CP-ABE systems. The experimental results show that LDSS can effectively reduce the overhead on the mobile device side when users are sharing data in mobile cloud environments.

## I. INTRODUCTION

Cloud computing means storing data and accessing that data from the Internet instead of Using Traditional hardware for most of the operations. More than 50% of IT companies have moved their Business to the cloud. Sharing of data over the cloud is the new trend that is being set on. The amount of data generated on a day to day life is increasing and to store that all of the data in traditional hardware is not possible because of limited storage capacity. Therefore, transferring the data to the cloud is a necessity where the user can get unlimited storage. Security of that data over is the next big concern for most of us. After uploading the data to the cloud use loses its control over that data.

Since personal data files are sensitive, data owners are allowed to choose whether to make their data files public or can only be shared with specific data users. Therefore, privacy of the personal sensitive data is a big concern for many data owners. When any of the people upload the data onto the cloud they are leaving their data in a place where monitoring

over that data is out of their control, the cloud service provider can also spy on the personal data of the users. When someone has to share data over the data they have to share the

password to each and every user for accessing the encrypted data which is cumbersome. Therefore, to solve this problem data should be encrypted before uploading it onto the cloud which can be safe from everyone.

Now the data encryption part brings some new problems such as we have to provide an efficient encryption algorithm such that if the data is in encrypted format it cannot be easily to get break or get accessed by any exploiters. The next big concern is time consumption for encryption. Traditional Hardware with big configuration can encrypt data in short amount of time but limited resource devices suffer from this problem. They require more amount of time of encryption and decryption. So, an efficient crypto system is to be proposed which can worked equally or heterogeneously on all of the devices.

## II. RELATED WORK

Attribute-based encryption (ABE) is proposed by Sahai and Waters. Attribute-based encryption (ABE) is a moderately late approach that re-evaluates the idea of public key cryptography. Attribute-based encryption is also referred to as ABE is a sort of public-key encryption wherein the secret key of a person and the cipher-text is established upon attributes. In an ABE, a person's keys and cipher-texts are labeled with units of descriptive attributes and a symmetric key can decrypt a selected cipher-text only if there's a match between the attributes of the cipher-text and the person's key. It reduces the quantity of key used and hence makes encryption and decryption technique faster

## III. EXISTING SYSTEM

With the development of cloud computing and the popularity of smart mobile devices, people are gradually getting accustomed to a new era of data sharing model in which the data is stored on the cloud and the mobile devices are used to store/retrieve the data from the cloud. Typically, mobile devices only have limited storage space and computing power. On the contrary, the cloud has enormous amount of resources. In such a scenario, to achieve the satisfactory performance, it is essential to use the resources provided by the cloud service provider to store and share the data. The development of cloud computing and the popularity of smart mobile devices, people are gradually getting accustomed to a new era of data sharing model in which the data is stored on the cloud and the mobile devices are used to store/retrieve the data from the cloud. Typically, mobile

# A Manet and Their Routing Protocols

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**ABSTRACT:** Portable Ad hoc system is arrange where hubs convey with no focal organization or system structure. They are interconnected through remote mediums and can utilize different jumps to change information with them. Directing conventions are required for correspondence and synchronization in such Ad hoc systems, where it targets proficient and convenient conveyance of message. The DSR is a basic and proficient directing convention planned explicitly for use in multi-jump remote impromptu systems of portable hubs. DSR permits the system without the requirement for any current system framework or organization.

**Keywords:** DSDV, WRP, DSR, Key events and Milestones.

## INTRODUCTION

A Mobile Ad Hoc system comprises of hubs that are capable to speak with one another through remote mediums. These hubs work as an end framework, yet in addition as a switch to advance parcels to other people, without the guide of any existing foundation or concentrated organization. Thusly, these systems have a unique topology since all the hubs can without much of a stretch join or leave the system whenever. These highlights make MANET helpful and down to earth, particularly, in military and salvage zones, for example, interfacing troopers on the combat zone or building up another system to supplant another which tumbles down after a debacle like a seismic tremor. So as to give network in a portable specially appointed arrange all hubs need to perform directing of system traffic. Albeit various impromptu steering conventions have been proposed, for example, Destination-Sequenced Distance-Vector (DSDV), Dynamic Source Routing (DSR) which accepted an condition where every one of the hubs are consummately agreeable. Shockingly, MANETS may not be such a benevolent condition due to multi-jump correspondence and the absence of unified organization. Furthermore, noxious hubs can openly join the system and cause different execution corruption, as meddling the directing data or tune in to the system correspondence. To verify a specially appointed system, we think about the accompanying characteristics: accessibility, information secrecy, information trustworthiness, verification and non-disavowal. These countermeasures considered to decrease or take out the security vulnerabilities what's more, assaults in the system. In the writing, a few secure advertisement hoc steering conventions have been proposed. In this paper, we present a definite overview of the notable steering conventions as far as security and recognize their impediments.

## MOBILE AD HOC NETWORK ROUTING PROTOCOLS

Albeit an assortment of conventions have been proposed and executed for the MANET. This segment depicts some of the generally utilized conventions alongside their Merits and Negative marks. Specially appointed steering conventions can be sorted out into Flat steering, Hierarchical directing and Geographic position helped steering.

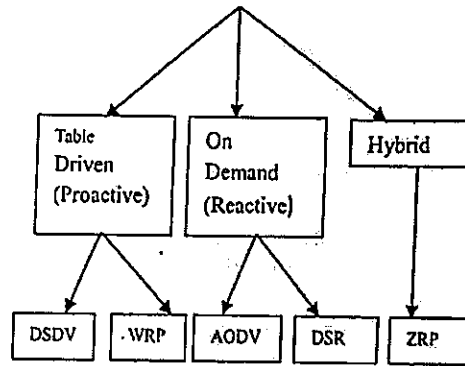


Fig 1: Routing protocols

## DYNAMIC DESTINATION-SEQUENCED DISTANCE-VECTOR ROUTING PROTOCOL (DSDV)

The DSDV convention is a table driven calculation. Every hub keep up steering table which conveys data pretty much all potential goals, number of bounces for every goal and a one of a kind grouping number that is doled out by the goal. This grouping number is utilized to recognize new courses from stale ones and furthermore maintain a strategic distance from the circles development. So as to make a steady perspective on the arrange every hub transmits and refreshes its directing table occasionally. The information being communicated by each station comprise of the goal address, the quantity of jumps required to arrive at the goal and the new grouping number, initially stepped by the goal. Transmission of steering refreshes caused organize traffic overhead, which can be constrained by utilizing the updates in two different ways. The first is full dump, in which all the accessible steering data is send to the neighboring hubs. The subsequent kind is gradual update which contains all that

# An Overview of Steganography and Cryptography

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**Abstract:** The present data world is an advanced world. Information transmission over an unbound channel is turning into a significant issue of concern these days. Also, simultaneously Interlopers are spreading over the web and being dynamic. So to secure the mystery information from burglary some safety efforts should be taken. So as to keep the information mystery different methods have been actualized to encode and decode the mystery information. Cryptography and Steganography are the two generally noticeable strategies from them. In any case, these two systems alone can't do function as much effectively as they do together. Steganography is a Greek word which is comprised of two words Stegano and graphy. Stegano implies covered up and graphy implies composing for example Steganography implies concealed composition.

**Keywords:** Steganography, Cryptography, DES, 3DES.

## 1. INTRODUCTION

Steganography is an approach to conceal the way that information correspondence is occurring. While Cryptography changes over the mystery message in other than human comprehensible structure however this strategy is having a confinement that the encoded message is unmistakable to everybody. Along these lines over the web, attackers may attempt to apply warmth and preliminary strategy to get the mystery message. Steganography beat the confinement of cryptography by concealing the way that some transmission is taking place. In steganography the mystery message is covered up in other than unique media, for example, Text, Image, video and sound structure. These two methods are unique and having their own criticalness. So in this paper we will talk about different cryptographic and steganographic procedures utilized all together they keep the message mystery.

## 2. STEGANOGRAPHY

Steganography discover their reality over quite a while back. In past ages Greek Historian Herodotus used to tattoo the mystery message over the scalp of the slave and when the hairs were developed again the slave used to dispatched for the goal. During Second World War German find another procedure called Microdots. In this method Germans expected to decline the size a mystery message or picture except if and until it will become as a similar size of the composed period. Later this procedure was utilized to hide the mystery message on a wooden piece and afterward it is secured by wax. In comparable manner

another strategy were utilized as undetectable ink. In this strategy the mystery message is composed with the assistance of exceptional sort of ink called imperceptible ink and the message must be recovered at the point when the paper gets warmed. This strategy was additionally utilized by Britishers to assume responsibility over India. They expected to utilize drum of immunization to conceal themselves from Indian, in this way they gather their military in India and begins controlling once again Indians. The idea of steganography can be better comprehended by detainee's concern. In this issue two detainees plan a plan to escape from jail. A superintendent was named to watch their movement. So they expected to begins conveying so that their correspondence stays unsuspecting. They used to transmit their message utilizing different spread media.

## STEGANALYSIS

Steganalysis is a strategy to recognize the presence of the mystery message inside any spread media. To accomplish this, different Steganalysis devices and systems are accessible. A few will be examined here.

Unusual examples: Unusual examples in any computerized media cause doubts. Some of the time TCP/IP bundle headers are utilized to transmit concealed data over an unbound channel. Headers are utilized on the grounds that a human doesn't focus over the TCP/IP header since it contains some held space. Be that as it may, firewall may channel such parcels that are temperamental for it.

Visual Detection: By examining repeating designs the mystery of shrouded message is obliterated. To accomplish this stego picture is contrasted and the first spread picture and unmistakable contrasts are taken note. Furthermore, if spread picture isn't accessible at that point realized marks are utilized to discover the presence of the mystery message.

One more media to recognize the presence of the mystery message is cushioning or trimming in a picture. Another perspective is contrast in document size among the mystery and spread picture. At times a lot of shading distinction or on the other hand picture quality debasement may excite doubts. The conceivable Steganographic assaults are talked about here.

- Steganography just assault: This assault may successful just when the steganography medium is accessible for examination.

# Analysis in Health Care based on Medical Palmistry using Image Processing

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**Abstract**—In this paper, an utilization of computerized picture handling and investigation systems has been talked about, which can be helpful in social insurance area to anticipate some significant sicknesses for Individual. The application is a picture preparing framework, which takes a shot at the premise of medicinal palmistry. The pictures of human palm structure contribution to the framework. At that point, framework applies computerized picture preparing and examination methods on info pictures to distinguish certain highlights in the picture. By utilizing learning base of medicinal palmistry it dissects certain highlights in picture and predicts plausible ailment.

**Keywords**:- Image Processing and Analysis (IPAA); Image Recognition; Magnetic Resonance Imaging.

## I INTRODUCTION

Advanced picture handling is the utilization of PC calculations to perform picture preparing on computerized images. As a subcategory or field of computerized sign preparing, advanced picture handling has numerous preferences over simple picture handling. It permits an a lot more extensive scope of calculations to be connected to the information and can keep away from issues, for example, the development of screech and sign twisting during handling. Since pictures are characterized more than two measurements computerized picture handling might be displayed as multidimensional frameworks. Medicinal science considers the palm for different hue of various area to get help with basic leadership.

Various hues seen at various areas in palm depend on blood flow at that area just as nearness of infection in human body. By watching these hues cautiously therapeutic science has determined a few ends, in light of which therapeutic professionals get essential thought regarding the soundness of patient. Palmistry is likewise one field where investigation of various areas of palm is done to comprehend physical and mental conduct of individual. Medical science has discovered that the palm contains more nerves cells than some other segment of the apprehensive framework. So that, palm is the impression of exercises going on in cerebrum. Along these lines, whatever is shown in palm is result of organic and mental changes in the human framework. While the accompanying hues signify there are irregular conditions.

## II. IMAGE PROCESSING AND ANALYSIS (IPAA)

A picture might be characterized as a two-dimensional capacity,  $x(a,b)$ , where  $a$  and  $b$  are spatial (plane) organizes, and the any pair of directions  $a,b$  is known as the power or dark degree of the picture by then. Whenever  $a,b$  and the sufficiency estimations of  $f$  are boundless, consider the picture a simple picture. At the point when these qualities are limited, discrete amounts, consider the picture an advanced picture. The field of advanced picture preparing alludes to handling advanced pictures by methods for a computerized PC. When PC has visual data in proper configuration, PC can break down it, which is called picture examination. Picture understanding what's more, examination is troublesome undertaking. In human services industry, there are such a large number of uses of advanced picture handling.

The principle capacity of the IPAA based framework is to take as an info, the picture of human palm, process it and as a yield, foresee infections, utilizing learning of medicinal palmistry.

The disease in human are dissected with their palm through the utilization of advanced picture preparing which is extremely valuable in the area of social insurance. The preparing of info picture is under the premise of medicinal palmistry. With the assistance of medicinal palmistry information, the info picture is prepared what's more, certain highlights in picture are dissected to foresee plausible disease.

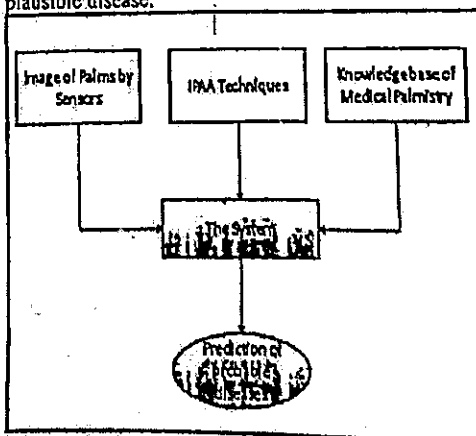


Fig.1 Architecture of the IPAA System

# An Analytical Study of Feature Extraction Methodologies in Iris Recognition

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**Abstract** - A biometric system for Iris recognition is gaining sky-scraping attention throughout the current years for a variety of appliances in both supportive and non-supportive environments. Various areas such as border security, airport, harbor, medical, corporate, etc., extensively utilize Iris recognition for personal recognition because of the unique and stable feature. By analyzing the pattern of iris, a person can be recognized accurately with the help of biometric system. Iris biometric has been accepted widely due avoid the forging of person. Most of the researches are in the pathway to improve the speed and accuracy of recognizing iris. This paper provides an analytical study of various feature extraction methodologies implied in iris recognition.

**Keywords** - Feature extraction, Iris recognition, Gabor Filter, DWT, DCT, Contourlet Transform

## I. INTRODUCTION

An individual can be identified accurately by the usage of biometric. This biometric system has been designed in a way that it can be utilized for various recognition like fingerprint, face, iris, hand, voice, signature etc., Based on the behavioral and psychological characteristics, this system is used. In terms of accuracy, iris recognition in biometric is the effective method, because iris has unique feature for each and every individual. Moreover this is always stable for an individual throughout his/her lifetime. As iris is an external part of eye that is visible, iris biometric is said to be highly reliable.

Image acquisition, preprocessing, iris localization and segmentation, extraction of features, formation of feature vector and identification between a genuine and an imposter image are the steps followed in the process of iris recognition system. These processes are shown in Figure. 1 Each process plays a unique role, in which capturing of iris images under sufficient illumination conditions is carried by image acquisition. Addition of noise is lead because of improper acquisition. Hence preprocessing is done for removal of noise and extraction of pupil is done. Then localization of iris is carried out by removing the pupil. Next the iris is identified and thereafter segmentation is made. The iris segmented is utilized for forming the feature vector which is then compared by the available classifiers for the identification of the authenticated person.

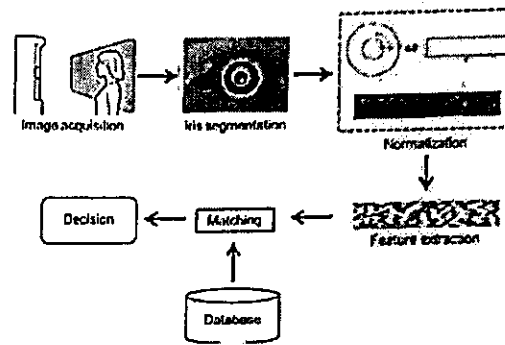


Fig. 1 Process in iris recognition system

In general there are two phases available in the biometric system, they are enrollment and verification phase. Feature vector is formed by the feature extraction from the collected images and the vector is stored in the database during the enrollment phase. The image that has to be tested goes for preprocessing and feature extraction, then the formed feature vector is compared by classifiers for the identification of authenticated person.

## II. FEATURE EXTRACTION AND ITS METHODOLOGIES

In iris recognition system the critical and most important part is feature extraction. This process extracts the distinct area present in the iris. This feature provides global, local and significant information regarding iris. For efficient feature extraction there is n-number of algorithms. Methods utilized in feature extraction are grey level co-occurrence matrix, independent component analysis, principal component analysis, contourlet transform, DWT - Discrete Wavelet Transform, DCT - Discrete Cosine Transform, Log-Gabor filter and Gabor filter. Let us look into these methods detailed manner,

### A. Grey Level Co-occurrence Matrix

Grey Level Co-occurrence Matrix is also known as gray-level spatial dependence matrix. GLCM is a statistical method which examines the texture of the image by considering the pixels spatial relationships. With the consideration of distance and direction between each pixel, this matrix is obtained. Features that are derived from this matrix are used for texture representation [1]. Correlation,

*(Signature)*  
 PRINCIPAL

# An Optimized Multipath Routing for Secure Communication of Wireless Sensor Network

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**Abstract**— Energy efficiency is the prime concern in Wireless Sensor Network because of the limitations on the power source for the sensor nodes. The proper routing technique can greatly contribute in energy consumption and efficient power dissipation in WSNs. Also the packet loss is major problem in the communication process. This paper emphasizes on energy conservation and secure data communication in a wireless sensor network using multipath routing technique public and private key cryptography. The optimized multipath routing technique deals the aspect to improve security, reliable transmission of data and power consumption. This paper concentrates on securing the data transmission with energy efficient routing. In this technique communication between nodes is setup in three phase path finding, data transmission and path maintenance with data security. For securing the communication this technique uses public cryptography which is initiated by the source node. This authentication and authorization secures the packets and minimizes the packet loss during the communication. The implementation results shows the improved energy consumption and maximizes the packet delivery ratio with minimizing the packet loss.

**Index Terms:** Energy efficient; Wireless sensor networks; Multi-path routing;

## I. INTRODUCTION

A sensor network is an infrastructure comprised of sensing (measuring), computing, and communication elements that gives an administrator the ability to instrument, observe, and react to events and phenomena in a specified environment. The administrator typically is a civil, governmental, commercial, or industrial entity. The environment can be the physical world, a biological system, or an information technology (IT) framework. Network(ed) sensor systems are seen by observers as an important technology that will experience major deployment in the next few years for a plethora of applications, not the least being national security. Typical applications include, but are not limited to, data collection, monitoring, surveillance, and medical telemetry. In addition to sensing, one is often also interested in control and activation. There are four basic components in a sensor network: (1) an assembly of distributed or localized sensors; (2) an interconnecting network (usually, but not always,

wireless-based); (3) a central point of information clustering; and (4) a set of computing resources at the central point (or beyond) to handle data correlation, event trending, status querying, and data mining.

Wireless sensor network (WSN) now been evolved as a prominent data acquisition tool [1]. At present WSN has been progressively used in industrial fields as well as in a various research field. Wireless sensor network has numerous applications like, short-range communication technique, micro-electrical technique and embedded system technique which are integrated together in wireless sensor network. On the other hand, WSN faces big challenges like its constraints in energy consumption, memory and transmission bandwidth. Despite this, the technique in WSNs which is important, routing algorithms have been given a great concern.

The proper routing protocol should be implemented for the network because of the limitation of the energy source in WSN [2]. Reason for that is we use battery in wireless sensor nodes and for the critical environment we cannot replace batteries that's why, lifetime of sensor nodes should be prolonged by positioning various parameters. So, the energy efficient routing protocol is the vital aspect which should be considered. WSNs have a major concern about security, energy consumption and the routing algorithm. Energy is consumed when a sensor nodes sense the data, transmit it between nodes and process it. Among these operations, transmission of data from one sensor node to another requires maximum energy. Much energy and power is consumed while in the process of authentication of node communication, validation and transmitting the data to the base station.

Wireless technologies differ in a number of dimensions, most notably in just how much bandwidth they provide and how far apart communicating nodes can be. Other important differences include which perhaps the electromagnetic spectrums they choose (including whether or not this has a license) and exactly how much power them consume (very important to mobile nodes). In this section we discuss four prominent wireless technologies: Bluetooth (802.15.1), Wi-Fi (more formally generally known as 802.11), Wi-MAX (802.16), and third-generation or 3G

# A Novel Method Of Deducting Fraudulent and Minimizing False Alert

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**Abstract:-** The paper discussed about the "A novel method of deducting fraudulent and minimizing false alert "fraudulent card during transactions and alerts the customer regarding the fraud. This project also aims in minimizing the number of false alerts. The concept of genetic algorithm is a novel one in this application domain. The algorithm begins with multi-population of randomly generated chromosomes. These chromosomes undergo the operations of selection, crossover and mutation. There are two parent chromosomes are formed when crossover combines the information. These parent chromosomes are used to produce new individuals, exploiting the best of current generation. While changing some of the parameter (in mutation or randomly) allows explorations into other regions of the solution spaces. Natural selection via a problem specific cost function assures that only the best fit chromosomes remain in the population to mate and produce the next generation. Upon iteration, the genetic algorithm converges to a global solution.

## I. INTRODUCTION

About the paper in recent years, the prevailing data mining concerns people with credit card fraud detection model based on data mining. Since our problem is approached as a classification problem, classical data mining algorithms are not directly applicable. So an alternative approach is made by using general purpose meta heuristic approaches like genetic algorithms.

This paper is to propose a credit card fraud detection system using genetic algorithm. Genetic algorithms are evolutionary algorithms which aim at obtaining better solutions as time progresses. When a card is copied or stolen or lost and captured by fraudsters it is usually used until its available limit is depleted. Thus, rather than the number of correctly classified transactions, a solution which minimizes the

## II. LITERATURE SURVEY

Fraud detection has been usually seen as a data mining problem where the objective is to correctly classify the transactions as legitimate or fraudulent. For classification problems many performance measures are defined most of which are related with correct number of cases classified correctly.[1]

A more appropriate measure is needed due to the inherent structure of credit card transactions. When a card is copied or stolen or lost and captured by fraudsters it is usually used until its available limit is depleted.[2]

The fraud detection problem has mostly been defined as a classification problem, in addition to some statistical approaches many data mining algorithms have been proposed to solve it. Among these, decision trees and artificial neural networks are the most popular ones. The study of Bolton and Hand provides a good summary of literature on fraud detection problems.[3]

The problem is approached as a classification problem with variable misclassification costs as discussed above, the classical data mining algorithms are not directly applicable; either some modifications should be made on them or new algorithms developed specifically for this purpose are needed.[4]

## III. GENETIC ALGORITHM

Genetic algorithms are evolutionary algorithms which aim at obtaining better solutions as time progresses. Since their first introduction by Holland, they have been successfully applied to many problem domains from astronomy to sports, from optimization to computer science, etc. They have also been used in data mining mainly for variable selection and are mostly coupled with other data mining algorithms. In this study, we try to solve our classification problem by using only a genetic algorithm solution.

### Pseudo code of genetic algorithm

```
Initialize the population
Evaluate initial population
Repeat
Perform competitive selection
Apply genetic operators to generate new solutions
Evaluate solutions in the population
```

### A. Selection process

Selection is used for choosing the best individuals, that is, for selecting those chromosomes with higher fitness values. The selection operation takes the current population and produces a "mating pool" which contains the individuals which are going to reproduce. There are several selection methods, like biased selection, random selection, roulette wheel selection, tournament selection. In this work the following selection mechanisms are used.

### B. Tournament Selection

Tournament selection has been used in this as it selects optimal individuals from diverse groups. It selects  $t$  individuals from the current population uniformly at random,



# Applying Data Mining Techniques for Phrase Extraction in Document Collections

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**Abstract-** Generally, writings have been broke down utilizing different data recovery related techniques, for example, full-content examination, and common language handling. Be that as it may, just few instances of information mining in content, especially in full content, are accessible. In this paper, general information mining techniques are pertinent to content examination assignments, for example, spellbinding expression extraction. Also, present a general system for text mining. The system follows the general information revelation process, in this manner containing steps from preprocessing to the use of the outcomes. The information mining technique that applies depends on summed up episodes and episode rules. It gives solid instances of how to preprocess writings in light of the proposed utilization of the found outcomes and present a weighting plan those aides in pruning out repetitive or non-clear expressions. Likewise present outcomes from genuine information tests.

**Keywords:** Text Mining, Preprocess, Episode and Episode Rules.

## 1. INTRODUCTION

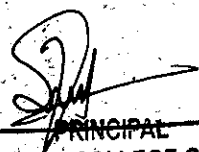
As of late, have seen the overflowing appearance of exceptionally enormous heterogeneous full-content record assortments, accessible for any end client. The assortment of clients' desires is wide. The client may require a general perspective on the archive assortment: what themes are secured, what sort of reports exist, are the records some way or another related, and so on. Then again, the client might need to locate a particular snippet of data content. At the other extraordinary, a few clients might be keen on the language itself, e.g., in word uses or semantic structures. A typical element for every one of the assignments referenced is that the client doesn't know precisely what he/she is searching for. Thus, an information mining approach ought to be proper, in light of the fact that by definition it is finding intriguing regularities or then again exemptions from the information, perhaps without an exact core interest.

## 2. GENERAL FRAMEWORK FOR TEXT MINING

In this approach, consider message as successive data in numerous regards like the information gathered by sensors or other perception frameworks. The general information revelation process adjusted to the errand of content processing is explained in fig 1.

The beginning point is printed data and the final result is data portraying marvels that are visit in the data, e.g. phrases or co-occurring terms. In our approach this data is displayed as episodes and episode rules.

Notwithstanding depicting the revelation methods, it clarify the key choices of the preprocessing and post processing stages that are important to center our revelation procedure.



PRINCIPAL

# Association Rule Mining using Apriori Algorithm for Extracting Product Sales Patterns in Groceries

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**Abstract:** Association Rule Mining is used for finding the patterns, associations and relationships in dataset. The rule is used for identifying the frequently occurs in item set. It helps to retailers to identify relationships among the items that people buy together frequently. It involves machine learning models to analyze the dataset for predicting patterns and co-occurrence. Many algorithms are used to generate the association rules. In this paper, we implemented apriori algorithm using R tool.

**Keywords:** Data mining, Association Rule Mining, Apriori algorithm

## I. INTRODUCTION

The software plays main part in businesses and organizations. A large amount of data is generated with the use of software. This datasets must be analyzed. Using that information the organization take some decision for their growth. For this process data mining is used for fulfilling this type of requirements. It applies some of the algorithms on the data and provides some useful information to organizations. To extract useful information from large data sets some of the techniques we applied. There are classification, clustering and association rule mining.

In retail industries collect and maintain the large amount of transactions data. It is very important using that data correctly and finds the hidden patterns and relationships among items should be identified. Using that information the retailers can find which products are frequently bought by customer along with other products. This information can help the person very useful for taking the business towards growth. It could help in supporting sales.

For this, Association Rule mining is used. This technique helps to find the frequent patterns, association, relationships and correlations and structures among the datasets in transactional database. Apriori algorithm works better for finding the frequent patterns. In this paper, we used R tool for implementing the apriori algorithm on groceries dataset.

The remaining of our paper is structured as follows: Section 2 specifies related research. Section 3 describes Association Rule Mining. Section 4 describes our use of R data mining tool for generating rules and their experimental results and Section 5 shows the conclusion of the research work.

## II. RELATED WORK

Pramod Prasad [1] et al implemented an association rule mining in extracting patterns that occurred frequently. This will help to manage retail businesses and gave reports. These reports are very useful regarding prediction of product sales styles and customer behaviour. This will help the retailers to make better decisions. For their experimentation, they tested the Apriori algorithm in Weka. They successfully implemented the Apriori algorithm in a visual C#.Net application.

M Harahap [2] et al analyzed the patient prescriptions details and then identify the relationship among the diseases and what are the medicines used by the physicians for treating the patient's disease. The medicine selection is more important. They collected the details of patient's prescriptions and applied k-means clustering method to classify the top most 10 diseases and finally they applied apriori algorithm to find relationships among prescriptions and diseases. They used MySQL database for cleaning and transforming of data. The assessment of support, confidence and lift between prescriptions and diseases is useful for recommending the correct medicine based on the state of disease of the particular patient.

Jayakumar Kaliappan [3] et al used Apriori algorithm for finding association rules to promote the sales and user interaction. They proposed the modified apriori algorithm. The proposed algorithm is 89.4% efficient than the normal algorithm.

Charanjeev Kaur [4] presented a survey of research paper regarding the association rule mining using Apriori algorithm.

## III. ASSOCIATION RULE MINING USING APRIORI ALGORITHM

Association Rule Mining is called as a Association Rule Learning. It is technique for used to find the association among the variables which are present in a dataset. It is applied in many areas like grocery stores, business websites having transactional database.

Association Rule Mining is applied on the transactional database. A rule is a notation that represents which items are frequently bought with which items. It has two parts. They are LHS and RHS.

Definition by Agarwal [5]. The association rule mining defined as follows:

$$\text{Let } I = \{ i_1, i_2, i_3, \dots, i_n \}$$

# A Starter to the Future Communication Through Illumination Transmission Along with the Wireless Transmission

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**Abstract:-** Nowadays access to Internet is an important task where the access is used for various businesses and house hold works. From small kids to older age people now use smart phones for the purposes of playing, reading, hearing music, paying bills, booking, seeing online shows to dramas in the particular channel, transferring money, video calling, conferencing, etc. Even it is used as the assistant when we are in new place. So Internet with the Smart phones rules the world of communication. The paper discusses how generations of Communication are done and the new current technology of communication with discernible brightness is used in the technology. The basics of the new technology and the benefits are discussed.

## INTRODUCTION

Communication, information passing from one person or device to another is done through various technologies. From the preliminary the generations of communication takes a variety of forms. Many techniques are involved for the communication.

From traditional communication of Newspaper, Radio and now it guide public to communicate through Smart phones. This communication of using Smart phones is much stretched drive. The paper explains the stretched journey of the Smart Phones with their Generations and their workings.

The paper is arranged in the following way. Section 1 Generations and their bandwidth usage, Section 2 discusses on the Wired and Wireless communication, Section 3 explains the Wireless Communication Wi-Fi and the Section 4 explains the Wireless Communication Li-Fi and the Section 5 ends with the conclusion.

## 1. GENERATIONS AND THEIR BANDWIDTH USAGE

### 1.1. Generation bandwidth & FDMA

1G can send and receive only analog signal. It started its journey in 1980's, uses Circuit Switching technique with the 30Khz bandwidth in the frequency of 824 to 894 MHz. Many standards came during the period are Advanced Mobile Phone Systems (AMPS), Nordic Mobile Telephone (NMT), Total Access Communication System (TACS). It uses Frequency Division Multiple Access (FDMA) for communication.

In FDMA each user is assigned a individual channels. Each user is allocated a unique key, band or channel. These channels are assigned on demand to users who request service. On the period of the call, no other user can share the same channel. It uses Guard channel for Radio Frequency (RF) filtering between the channels. Its simplicity is the advantage. It is also can be used by simple algorithms and from hardware point of view. It is efficient when the number of stations is small. It uses Narrow Bandwidth of 30 kHz.

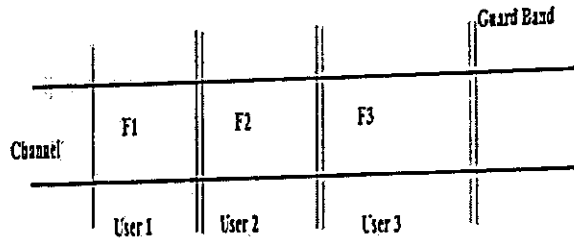


Fig 1. Frequency Division Multiple Access

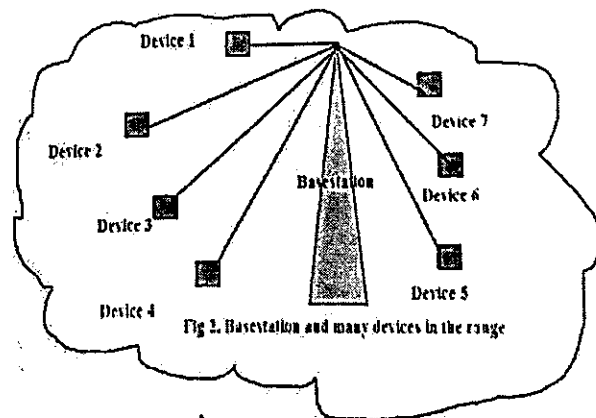


Fig 2. Base station and many devices in the range

The Guard band reduces interference so it requires right RF filtering. Since Guard band is a space in the channel it is not used for communication. Maximum bit rate per channel is fixed.

# A Study of Strategies, Preprocessing and Area of Text Mining

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**Abstract:-** Text Mining has turned into a significant research zone and it is the process of deriving high-quality information from text. Text Mining is the revelation by PC of new, already obscure data, via naturally removing data from various composed assets. It is also known as text analytics. Text mining tasks used in text categorization, text clustering, sentiment analysis, summarization, entity relation modeling and etc. In this paper, a Survey of Text Mining strategies and applications have been exhibited.

**Keywords:** Text mining; Data mining; Information retrieval; Text mining tasks;

## 1. INTRODUCTION

Customary Information recovery methods become deficient for the undeniably tremendous measure of content information. A ordinary content mining issue is to find applicable reports from a tremendous archive gathering. Client need devices to think about various reports rank the significance and find examples and patterns over various archives. Henceforth Text mining assumes an essential job in the Information recovery frameworks. The principle goal of pre-handling is to get the key highlights or key terms from put away content reports and to upgrade the importance among word and report and the significance among word and class. Pre-Processing step is pivotal in deciding the nature of the following stage, that is, the arrangement organizes. It is significant to choose the huge catchphrases that convey the importance and dispose of the words that don't add to recognizing between the archives. The pre-preparing period of the study changes over the first literary information in an information mining ready structure.

## 2. DIFFERENT APPROACHES TO TEXT MINING

Utilizing admirably tried techniques and understanding the aftereffects of content mining. When an information network has been figured from the information reports. Furthermore, words found in those reports, different understood scientific procedures. As it is utilized for further handling those information including techniques for grouping.

"Discovery" ways to deal with content mining and extraction of ideas. There are content mining applications which offer "discovery" techniques. That need to extricate "profound signifying" from records with minimal human

exertion. These content mining applications depend on exclusive calculations.

### i) Keyword based Association Analysis

Gather sets of watchwords or terms that happen routinely along and at that time discover the affiliation or affiliation relationship among them. 1st preprocess the content data by parsing, stemming, evacuating stop words, and so on. At that time bring out affiliation mining calculations - take into account every record as AN exchange - read plenty of watchwords within the report as set of things within the exchange. Term level affiliation mining. No demand for human toil in labeling reports. - the number of unimportant outcomes and also the execution time is awfully diminished.

### ii) Document Classification Analysis:

Automatic record grouping; Programmed order for the massive number of on-line content documents (Web pages, messages, and so forth). Content report order varies from the characterization of social information as archive databases are not organized by trait worth sets.

### iii) Association-Based Document Classification

Concentrate catchphrases and terms by data recovery and basic affiliation examination strategies. Get idea progressions of catchphrases and terms utilizing Available term classes, for example, Word Net, Expert learning? Order reports in the preparation set into class chains of importance. Apply term affiliation mining strategy to find sets of related terms. Utilize the term to maximally recognize one class of records from others. Determine a lot of affiliation principles related with each record class. Request the grouping standard dependent on their event recurrence and discriminative power. Utilized the standards to arrange new records.

### iv) Document Clustering Analysis:

Naturally gathering related reports dependent on their substance. Require no preparation sets or foreordained scientific categorizations; produce a scientific classification at runtime. Real advances; Preprocessing: Remove stop words, stem, and highlight extraction. Various leveled bunching; Compute similitude's applying grouping calculations. Cutting: Fan out controls; smooth the tree to configurable number of levels.

# A Study on Middleware for Internet of Robot Things: Concept, Technologies and Challenges

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**Abstract** - Internet of Robot Things technology combines Internet, sensors, smart objects and Middleware, provides services to software applications beyond those available from the operating system. We evaluate numerous scientific publications covering many visions of Internet of Things using Middleware to combine objects into different applications and networks. We made summaries of the main articles, aiming to bring the main points addressed in each one, and performed a comparative analysis between them, highlighting their similarities and points of greatest relevance. Using this knowledge base. At last, we bring conclusions about the current state of the use of Middleware for IoT and the main challenges for combining IoT and marketing applications.

**Keywords:** Middleware; Internet of Robot Things; Comparative Analysis

## 1 INTRODUCTION

The Internet of Robot Things (IoRT) has become an increasingly constant topic in everyday conversations. It is an emerging model that brings together autonomous robotic systems with the Internet of Things (IoT) vision of connected sensors and smart objects persistently embedded in everyday environments.

The term "Internet of Robot Things (IoRT)" was created by Kevin Ashton at the end of the 90s, in a presentation to executives of a major international brand that had the objective to gather the use of RFID's (Radio - Frequency Identification) with the product supply network in retail markets and wholesale [1]. Then the Massachusetts Institute of Technology (MIT) presented their IoT vision in 2001 [2] and later, the Internet of Things was formally established by the International Telecommunication Union (ITU) by the ITU Internet Report in 2005 [3].

The concept of IoT it is defined as the connection of any electronic device to the Internet. This includes cell phones, coffee makers, washing machines, lamps, portable devices, refrigerators, and many others a multitude of devices built with sensors and connection capabilities. This also applies to machine components, e.g., a jet aircraft engine, an automobile press mill or an oil platform drill. The connection between these devices generate a large

amount of data, which in turn must be stored, processed and presented efficiently and easily interpretable way. [4]

When a large number of sensors are implemented, and the generation of data is initiated, the approach based on the traditional application (i.e., the connection of sensors directly to the applications individually and manually) becomes unfeasible. In order to address this inefficiency, significant amounts of Middleware solutions are reported by researchers. Each Middleware solution focuses on different aspects of the Internet of Things, such as device management, interoperability, platform portability, security and privacy, among others. Even so, some solutions address several aspects, and an ideal Middleware solution that addresses all aspects required by the IoRT is yet to be developed [5].

This paper presents an analysis of a few researches that addresses Middleware applied to IoT, together with the understanding of the work done by different authors and draws a comparative analysis of the selected studies. Specifically in Section II, it presents an overview of the concepts of the Internet of Things (IoT) and in section III, about a review of the concepts of Middleware. Section IV provides a summary of selected articles and their comparative analysis of the articles are presented in Section V. Finally, Section VI presents the conclusion and final considerations.

## 2 INTERNET OF THINGS (IOT)

Internet of Things (IoT) is the convergence between Internet and RFID, sensors and smart objects. Internet of Things can be defined as "things that belong to the Internet" for the supply and access to all real-world information. According to Gullemin and Friess [6], IoT allows people and things to be connected anytime, anywhere, with anything or anyone, preferably using any path and any service. Figure 1 illustrates this connection between the "things" related by Gullemin and Friess more easily.

# A Survey on Attribute-Based Encryption Technique for Scalable Data Sharing in Cloud Storage

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**ABSTRACT:** Cloud computing provides the flexible architecture to share the applications as well as the other network resources. Cloud storage enables networked online storage. Key management and key sharing plays the main role in the data sharing concept of cloud computing. While cloud computing brings new and challenging security threats to the outsourced data. Hence data owner does not have any control to ensure data security in host data centers. In this paper, Cipher text policy attribute-based encryption (CP-ABE) is introduced with Key aggregate cryptosystem a promising cryptographic solution to this issue. It enables data owners to define their own access policies over user attributes and enforce the policies on the data to be distributed and Attribute policies, Cipher text policies are being aggregated. This effectively eliminates the need to rely on the data storage server for preventing unauthorized data access and integrity. Adding User revocation model enables removing access to suspicious users and Intrusion detection system to alert the owner during defined attacks noticed.

**Keywords:** Key aggregate cryptosystem, access control, user revocation, intrusion detection.

## I. INTRODUCTION

Cloud computing is the new trending model used for computing in which the internet is used for communicating and storing the data. Some of the most crucial functionalities of cloud computing is data sharing and securely storing the important data dumped into cloud. When it comes to sharing and storing of data, the users of the cloud become bit hesitant to put the data onto the cloud scaring about the confidentiality and security of the data. Due to these aspects of preserving the security and confidentiality of the data, the notion of encryption came into picture. Here the users can encrypt their data using various encryption algorithms before help of the third Party key generators for encrypting and decrypting of data or can encrypt by themselves using various algorithms.

Cloud storage is day-by-day gaining popularity. It is being utilized as core technology for various online services. The wireless technology enables use to access almost all files, emails and data for the users using their smart devices from any remote corner of the world. Data sharing is a prime functionality in the cloud storage. The blog writers usually allow their friends to have a look or access some of the confidential files among the various

files dumped in the cloud; any organization may grant their employees to access a small part of their confidential data. So here the sharing of the encrypted data with only the authentic users, who are given the rights to access it, is the challenging factor. Although users have the option of downloading the encrypted data from the cloud, decipher them, and later send them to their friends for sharing it, but this will simply lessen the impact of cloud storage. Instead the authentic users must be given the privilege of rights for accessing while data sharing with others in such a way for accessing those data directly from the server.

Cloud Storage is a service where data is remotely maintained, managed, and backed up. This service is available to users over a network, which is usually the internet. It allows the user to store files online so that the user can access them from any location via the internet. While considering data privacy, we cannot rely on traditional technique of authentication, because unexpected privilege escalation will expose all data. Solution is to encrypt data before uploading to the server with user's own key.

Data sharing is again important functionality of cloud storage, because user can share data from anywhere and anytime to anyone. For example, organization may grant permission to access part of sensitive data to their employees. But challenging task is that how to share encrypted data. Traditional way is user can download the encrypted data from storage, decrypt that data and send it to share with others; but it loses the importance of cloud storage. Cryptography technique can be applied in a two major ways- one is symmetric key encryption and other is asymmetric key encryption. In symmetric key encryption, same keys are used for encryption and decryption. By contrast, in asymmetric key encryption different keys are used, public key for encryption and private key for decryption, also known as Public-key encryption.

Use of Public-key encryption is a powerful mechanism for protecting the confidentiality of stored and transmitted information is more flexible for our approach. Since the decryption key should be sent via secure channel and kept secret small size is always enviable.

# Automated Prediction System for Various Health Conditions by Analysing Human Palms and Nails using Image Matching Technique

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**Abstract**—In recent years, palm print identification technology has been widely carried out and used in fields such as identity recognition. At the same time, some features of palm and skin vividly reveal information about diseases and health condition of the human body. We can research the application of palm diagnosis in traditional Chinese medicine with the help of digital image processing technology. In the field of medical science, practitioners observe nails and palm of patient to get assistance in diagnosis of the disease. Also human eyes have some limitations in case of minute observations. A branch of palmistry, known as medical palmistry is one branch where scientific study of human palm and skin is done to identify or predict the diseases. It has been found that today computers are used in healthcare domain for storage purpose but not for taking decision regarding diagnosis or prediction of diseases, i.e. the experts, who can predict or identify the disease by observing color of nails and palms, do not have support of computer system. To bridge this gap, the model of decision support system for healthcare based on medical palmistry using the techniques of digital image processing and analysis is designed and implemented to identify or predict the disease.

**Keywords**—Back Propagation Neural Network, Digital Image Processing Technique, DDS, Medical Palmistry.

## I. INTRODUCTION

Palmistry is a branch of science which can forecast the future of an individual authentically. Medical palmistry is a branch of palmistry, which helps in the identification of some diseases by observing nails colors and palm textures to indicate specific diseases, based on their position on lines, mounts and fingers. According to some principles of medical palmistry, there are symbols like leeland, cross, star, square, spot, and circle.

If one or more of them is/are found on specific region of palm it indicates that there occurs a probability of disease of respective organ of body [1] [2].

Apart from symbols, color of nails and skin type also plays an important role in making decision. The color of nails is observed by many doctors to get assistance in disease identification. It is possible to observe color of

nails by naked eyes, but it may become subjective. Computer vision helps us to determine this color without any subjectivity [3]. Usually, pink nails indicates good health. But, some color of nails indicates certain diseases. For example, (i) a faded pink color of the nails indicates anemia, heart failure, malnutrition, and liver disease. (ii) white nail with dark edges indicates problems with the liver, such as hepatitis. Apart from these examples, different colors of nails indicate particular diseases which are studied in medical science. [1][2].

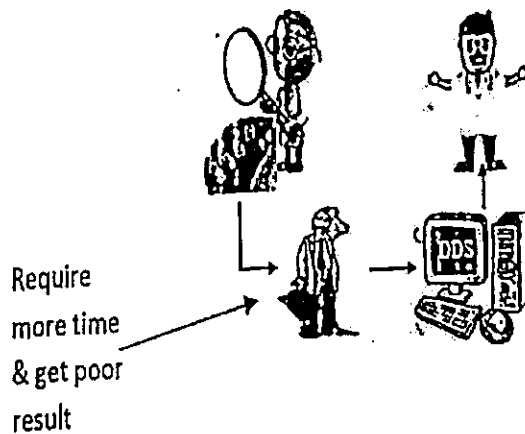


Fig. 1 Need Of Project

Traditional System there are doctors who can predict the diseases based on the nails but they require more time & also they get poor result So to overcome that problem we design new system called Disease Detection System (DDS) it will give better result in less time. The system uses digital image processing and analysis techniques to identify such colors of nails. This paper presents an approach towards diagnosis of diseases based on palmistry. DDS increases accuracy of such observations of palm and nails. DDS applies digital image processing techniques on input palm images to identify certain features in the image using MATLAB. By using knowledge base of medical palmistry it analyzes certain features in image and predicts probable diseases and provides preventive measures for the same.

# Classification of Symptoms that Occurs in Neurological Disorders by using Data Mining Techniques

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**Abstract:** Data mining has more effective techniques in eliminating insignificant data. Nowadays, People are not spending their efficient time identifying their condition until it progresses. Parkinsonism comprises some cluster of characteristic conditions such as Weak movement, Tremor, and Muscle stiffness. As yet there is no cure for all types of Parkinsonism, but there are many therapies to follow to improve their life expectancy. Progressive Supranuclear Palsy (PSP) is a few well-known disease among people that mostly affects the brain. The disease outcome is damaging nerve cells in the brain. Due to the analogy of some symptoms during the primordial stage of the disorders and it is intermittently predicted as Parkinson's disease. PSP causes more relentless symptoms, not respond effectively to Parkinson's medicine, and the span of life will be less. It is a testing assignment to diagnose if a human is influenced by PSP to examine with symptoms such as Tremor, Posture. Data mining techniques are most useful in identifying neurological disorders through symptoms. This paper contemplates different data mining techniques in diagnosing Parkinson's and Parkinson's plus syndrome in the early stage to enhance the quality of living.

**Keywords:** Progressive Supranuclear Palsy, Parkinson's disease, Data Mining, and Classification.

## INTRODUCTION

Data mining helps in the medical field to identify the symptoms that occur in the primordial stage to reduce the cost and to improve the health condition of patients affected with a neurological disorder. Most of the experts involved in enhancing medical technology to decrease the amount for complete health care using some data mining techniques. Neurological disorder such as Parkinson's and PSP have similar symptoms, it is misdiagnosed and proper treatment has not provided for the patient to increase their span of life. Data Mining classification techniques used to eradicate the incorrect diagnosis happened through symptoms. The objective of this paper is to show the similarities of each type of neurological disorder and in future different data mining, classification techniques are applied such as Decision Tree Induction, Bayesian Classification, Support Vector Machine, Rule-Based Classification to find out the accuracy of each symptom.

## II. RELATED WORK

Carlo Ricciardi et.al[1] utilized the gait analysis parameters to classify Parkinson and Atypical Parkinson disease and used Random Forests algorithm and Gradient Boosted Trees Algorithm. The classification accuracy achieved in this paper was 86.4%.

Shook Ja Lee et.al[2] explained about the quality of life with people who affected by Parkinson disease by using various variable factors such as Depression, pain, Sleep disturbances, Fatigue and done hypothesis tests.

Gokuls et.al[3] predicted the Parkinson disease using Fully Complex-valued Radial Basis Function network (FC-RBF), MetaCognitive Fully Complex-Valued Radial Basis Function Network (Mc-FCRBF) and Extreme Learning Machine with the help of Unified Parkinson's Disease Rating Scale (UPDRS) and Severity of the patient affected with Parkinson disease and for untreated patient and showed that Mc-FCRBF network has good prediction accuracy.

Patrick Schwab et.al[4] used new technologies for monitoring and diagnosing of Parkinson disease and assess symptom severity of Parkinson disease from the recorded signals in Smartphone-based test in walking, checking voice, tapping and memory testing.

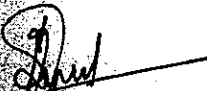
Tarigoppula.V.S.Sriram et.al[5] utilized the voice dataset for the Parkinson disease, diagnosing through Machine learning approach and proved that voice data is used as a diagnostic method for human diseases.

Bradley F.Boeve [6] suggests the importance of identifying patients with this disorder.

Brent Bluet et.al [7] analyses, this study was to identify clinical parameters most significantly associated with increase falls in PSP.

## III. PARKINSON'S, PSP AND ITS SYMPTOMS

The PSP is often compared with Parkinson's due to the resemblance of some symptoms mainly stiffness, weak movement and movement difficulties and it's the reason that PSP and Parkinson's cause parkinsonism. The PSP may be hard to discriminate from PD early on. However, Tremor is the most common symptom that affects 70 percent of people with Parkinson's and 10 percent of people with PSP. One main dissimilarity is that people with PSP find it difficult to look upwards or downwards,



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# Deep Learning Algorithms for Breast Cancer Image Classification

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**Abstract** - Breast Cancer is one of the most major reasons for death among ladies between the age of 30 to 45. The early detection method to identify the breast cancer is mammography. Many research has been done on the diagnosis and detection of breast cancer using various image processing and classification techniques[1]. Since the cause of breast cancer stays unclear, prevention becomes difficult. Thus, early detection of cancer in breast is the only way to cure breast cancer. Using CAD (Computer Aided Diagnosis) on mammographic image is the most appropriate and easiest way to diagnosis for breast cancer. Accurate discovery can effectively reduce the death rate. Masses and micro calcifications clusters are an important early symptoms of possible breast cancers. They can help predict breast cancer at its early state. CAD is being utilized and requested by radiologist that help them in making an perfect diagnosis and helps to improve outcome predictions. The involvement of digital image classification allows the doctor and the physicians a second opinion, and it saves the doctors' and physicians' time. Importance given on the Convolutional Neural Network (CNN) method for breast image classification. Along with the CNN method with the conventional Neural Network (NN), Logic Based classifiers such as the Random Forest (RF) algorithm, Support Vector Machines (SVM), Bayesian methods, and a few of the semisupervised and unsupervised methods which have been used for breast image classification[2].

## 1. INTRODUCTION

Breast cancer is the most common cancer in women worldwide, according to the World Health Organization. Different types of cancer can be created in human body; among them breast cancer creates a serious health issues. Due to the structure of the human body, women are more in danger to breast cancer than men. There are different reasons for breast cancer, age, family history, breast density, obesity, and alcohol intake are reasons for breast cancer. Statistics says that the growth rate of breast cancer increases drastically. Figure 1 shows the number of females newly facing Breast Cancer as well as the number of females dying from the year 2007 in Australia. This is the situation of Australia (population 20-25 million), but it can be used as a figure of the Breast Cancer situation of the whole world.

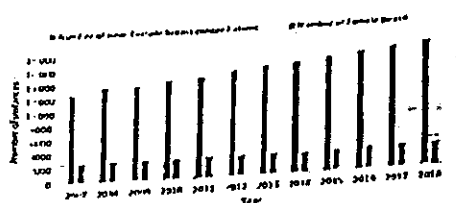


Figure 1. New cases of breast cancer for women and number of women dying in the last twelve years.

Early diagnosis is the first step in proper treatment of any disease. Nowadays it is immediate need for best pre-screening tool to spot the abnormality of the mammogram images in the earlier stage itself to identify the breast cancer. Manual investigation of this kind of images largely depends on the expertise of the doctors and physicians. As humans are error prone, so even an specialist can give wrong information about the diagnostic images. Computer Aided Diagnosis (CAD) techniques are largely utilized for biomedical image analysis such as cancer identification and classification. The use of CAD allows the patient and doctor to take a second opinion.

Breast cancer tumors can be categorized into two broad categories:

- (i) **Benign (Noncancerous):** Benign cases are considered as noncancerous, that is, non-life-threatening. But on a few occasions it could turn into a cancer status. An immune system known as "sac" normally segregates benign tumors from other cells and can be easily removed from the body[1].
- (ii) **Malignant (Cancerous):** Malignant cancer starts from an abnormal cell growth and might rapidly spread or attack nearby tissue. Normally the nuclei of the malignant tissue are much bigger than in normal tissue, which can be life-threatening in future stages. Cancer is always a life-threatening disease. Proper treatment of cancer saves people's lives. Identification of the normal, benign, and malignant tissues is a very important step for further treatment of cancer. For the identification of benign and malignant conditions, imaging of the targeted area of the body helps the doctor and the physician in further diagnosis.

  
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# Information Retrieval in Data Mining with Soft Computing Algorithms

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**Abstract-** In recent years IR-Information Retrieval has shown its development of indexing and searching useful information from the collection of database. Web is the universal repository to store information such as documents, text, music and images in huge collections. This information has to be retrieved by the user from the WWW with the irrelevant information. In this regard finding useful information is becoming more complicated, therefore proper information retrieval has to be taken care. Applying soft computing techniques like ANN, genetic algorithm, ant colony algorithm, PSO and differential evaluation can overcome the problem of retrieving useful information. This paper will give an overview of soft computing technique for information retrieval.

**Keywords:** Information Retrieval, Soft Computing, ANN, Genetic Algorithm, Ant Colony Algorithm, Differential Evolution, PSO

## I. INTRODUCTION

IR is a wide area concerned for searching information, documents, metadata of document, relational databases on the World Wide Web. The ultimate goal for IR is to find relevant documents for the information required from the huge document. Classification of document, categorizing, modelling, data visualizing, system architecture, filtering, etc, are the recent research carried out in current years. Information retrieval has been utilized in many areas such as library records, scientific publication, books, journals and general data with respect to user's expectation. Retrieving useful information from the irrelevant data is highly complicated. Sorting from the huge amount of data and getting relevant information is known to be data mining. In general data mining is applied in organizations by business analyst and financial analysts and increasingly utilized in the field of science for extracting information from huge set of data.

Various techniques in soft computing like ANN, genetic algorithm, PSO and ant colony algorithm are used for the efficient retrieval of information [2, 6]. This paper explores the various soft computing techniques used for information retrieval.

## II. SOFT COMPUTING

Methodologies that are designed mathematically with a mix of modelling and enabling solutions in real world problems are soft computing. The main goal of soft computing is for exploiting. To exploit imprecision, approximate reasoning and uncertainty data in order to accomplish low margined results with tractability and robustness is the main aim of this technology [1]. Soft computing is variant with hard computing. Problems that is hard to answer for a solution is implemented using optimization technique which is followed in soft computing. The process of regulating the given inputs for finding min or max results is said as optimization. Soft computing utilizes various techniques, some of them are neatly explained below.

## III. ANT COLONY ALGORITHM

The born of AA-Ant Algorithm is derived from natural bionic algorithm. M. Dorigo has initially proposed this algorithm with the main aim in finding the optimal solution by using ants as information transmission [4]. That is the reason this algorithm is called as ACO-Ant Colony Optimization algorithm and AS-Ant System is applied in artificial ants. This algorithm best suits for graph based problems. ACO is applied only after the transformation of optimization problem to the problem that finds the better path in the weighted graph. Solutions are built incrementally by artificial ants' movement on the graph. This solution constructing process is speculative and hence influenced by pheromone model. ACO is suitable for travelling salesperson problem. In general ants have the capability to find the nearest path. With respect to environment change, ants can search the new paths. To search food ant have a special secretion known to be pheromone is utilized. More pheromone is left to increase the choice of probability, when more number of ants chooses the same path [2].

## IV. GENETIC ALGORITHMS (GA)

GA - Genetic Algorithm is one of the soft computing approaches. It is a subset of fuzzy logic and AI. The main idea in GA is inferring various optimization problems relevant to real life applications. The principles stimulated



# Network Security with Cryptography and Steganography

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**Abstract:-** Network security, cryptography & steganography is the concept to protect data while transmitting over the wireless internet and network. It deal with developing and analyzing protocols which prevents malicious third parties from retrieving information being shared between two entities. Secure communication refers to the scenario where the message or data shared between two parties can't be accessed by malicious entity. Cryptography provide some of security services for protecting data in network. Steganography is an attempts to achieve secure and undetectable communication

**Key:** Network security, types of cryptography, setganography

## INTRODUCTION:

Network security is consists of the policies and practices adopted to prevent and monitor unauthorized access, misuse, modification, or denial of a computer network and network accessible resources. Network can be private, such as within a company, and others which might be open to public access. It involves authorization of data n the network, which is controlled by network administrator. Cryptography is a method of protecting information and communications through the use of codes so that only those for whom the information is intended can read and process it. In Cryptography the techniques which are use to protect information are obtained from mathematical concepts and a set of rule based calculations known as algorithms to convert messages in ways that make it.hard to decode it. These algorithms are used for cryptographic key generation, digital signing, verification to protect data privacy, web browsing on internet and to protect confidential transactions such as credit card and debit card transactions. Steganography is a method of hiding secret data, by embedding it into an audio, video, image or text file. It is one of the methods employed to protect secret or sensitive data from malicious attacks.

## NETWORK SECURITY:

Network security is the security provided to a network from unauthorized access and risks. It is the duty of network administrators to adopt preventive measures to protect their networks from potential security threats. Computer networks that are involved in regular transactions and communication within the government, individuals, or business require security. The most common and simple way of protecting a network resource is by assigning it a unique name and a corresponding password.

## TYPES OF NETWORK SECURITY DEVICES

**Active Devices:** These security devices block the surplus traffic. Firewalls, antivirus scanning devices, and content filtering devices are the examples of such devices.

### Passive Devices

These devices identify and report on unwanted traffic, for example, intrusion detection appliances.

### Preventative Devices

These devices scan the networks and identify potential security problems. For example, penetration testing devices and vulnerability assessment appliances.

### Unified Threat Management (UTM)

These devices serve as all-in-one security devices. Examples include firewalls, content filtering, web caching, etc.

### Firewalls

A firewall is a network security system that manages and regulates the network traffic based on some protocols. A firewall establishes a barrier between a trusted internal network and the internet.

Firewalls exist both as software that run on a hardware and as hardware appliances. Firewalls that are hardware-based also provide other functions like acting as a DHCP server for that network.

Most personal computers use software-based firewalls to secure data from threats from the internet. Many routers that pass data between networks contain firewall components and conversely, many firewalls can perform basic routing functions.

Firewalls are commonly used in private networks or *intranets* to prevent unauthorized access from the internet. Every message entering or leaving the intranet goes through the firewall to be examined for security measures.

An ideal firewall configuration consists of both hardware and software based devices. A firewall also helps in providing remote access to a private network through secure authentication certificates and logins.

# Online Textile Industry based Complaint Grievances Management System

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## I. INTRODUCTION

Addison international is a 22 years old company which is manufacturing & exporting the home furnishing made ups and fabrics. We are exporting home furnishing fabrics all over the India.

Being part of this industry since its infancy stage and still going strong makes us very much a veteran of this industry. Currently, covering all the major markets of the India like Chennai, Bangalore, Delhi and Mumbai.

Based in Karur, TamilNadu we have an in-house facility of researching and design, able assisted by a team of efficiency and knowledgeable designers to maintain complete command over the quality and exclusively of our range. Our showroom and sampling unit is located in industrial hub of Karur. Our production facility in Gujarat and Ahmadabad complete with all modern entities. A strong, dedicated and experienced workforce of more than 47 people work to meet the delivery deadlines adhering to the highest quality standards as demanded by the line of business. With a fast changing market dynamic and even quicker in the design trends, our constant Endeavour is to be ahead of the market with fast turn around of new cutting edges contemporary styles at most realistic prices.

## II. EXISTING SYSTEM

The existing system of this project is already computerized but the end user doesn't know whether the information is received to the admin or not

### DRAWBACKS

- > The registered complaint and grievances will not be redirected, it will stored in database.
- > There are limited space to write complaint and grievances.
- > The user doesn't know whether their complaint and grievances are added or not.
- > Report can't be viewed because there is no report form.
- > There is no security for database so, there is a chance of missing records.
- > Anyone can access the database without any authentication.
- > There will be a delay in updating of problem.
- > User does not know the status of the problem

## PROPOSED SYSTEM

This system gives the solution to the problem by forwarding it to the concern authorities within in a particular time. The main idea for developing this proposed system is to replace the existing system with a advanced computerized system.

### DRAWBACK

- The proposed system provides solution to the existing system by extending its facilities such as
- > The registered complaint and grievances will be redirected to the specific departments.
  - > Large number of complaints or grievances can be posted simultaneously.
  - > Lot of records are stored in database, there is no chance of missing records because of good security.
  - > After posting their complaints and grievances the popup message will be displayed to assure that the text is added.
  - > In this system the flexibility of interaction will be easier and can be completed in quicker time.
  - > Faster retrieval of reports.
  - > The report will be display to the users whether the complaint and grievances are rectified.

## III. EXPERIMENTAL ANALYSIS

### HOME PAGE

# Real-Time Data Diagnostic Architecture for Satellite Image Mining using SIFT Algorithm

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**Abstract**— Remote sensors create an immense measure of information from satellites. These days, there is an enormous interest in ongoing information for remote detecting applications and to separate helpful data from the satellite picture. This paper analyzes distinctive mining approaches in different satellite picture applications. A two-level blending approach is utilized to separate the ocean region. In any case, the presentation is lower because of the absence of highlight extraction. The progressive district mixing approach is utilized to naturally distinct the ocean and land region. The consolidating approach can be better portrayed by directed data joined with the element extraction. This results in bringing out real-time analytical architecture to detect land and sea areas. The sensors are conveyed in the woodland to highlight out the temperature and weight for fire discovery. Sensors are of a significant expense. Sensors can be crushed because of climatic changes and by creatures. These issues can be maintained a strategic distance from by utilizing satellite picture digging applications for fire identification utilizing constant diagnostic engineering. The highlights of the satellite picture can be separated by utilizing the Scale Invariant Component Change (Filter) calculation. The speed of distinguishing fire utilizing the satellite picture can be expanded by the utilization of Hadoop, a parallel handling system.

**Keywords**—LANSAT; Remote Data; Hadoop Distributed File System (HDFS); Synthetic Aperture Radar (SAR); Scale Invariant Feature Transform (SIFT); LANDSAT; Remote data.

## I. INTRODUCTION

Starting late, a great deal of excitement for Information mining has risen. Mining strategies can be executed on new frameworks as existing techniques are updated and new items created. While mining apparatuses are actualized on elite parallel handling frameworks. In this way, clients can examine a huge database in minutes. The fast execution of mining techniques causes clients to break down huge amounts of information. The cutting edge innovation in mining systems gives out gathering, overseeing, breaking down and preparing of remote information. Remote sensors are intended to dissect the earth observatory framework. Numerous works have been done in the various fields of remote detecting information from the satellite, for

example, angle based edge identification [1] and change discovery [2]. Ongoing information systems engineering is focused on rapid consistent constant and gigantic disconnected information.

These days, the world gets changed to the advanced world and producing an enormous measure of information. From these informational indexes, to break down information is in danger by utilizing the current innovation. The information is created by gushing information, in this manner the information will land at rapid and the calculation needs to process all the showed up information. In this manner, there is a requirement for a design to dissect both the ongoing and disconnected informational collections. The progression in the PC innovation and remote detecting build the gigantic measure of detecting information. The earth observatory information from the rocket is around 1.7GB, this information is gathered by a single satellite. This huge measure of information needs to procedure to remove the valuable data. Along these lines, there is a requirement for a design for load adjusting, data aggregation, and decision investigation.

Remote detecting is the study of getting data about regions from satellites. The satellites around the earth are creating assortments of the information inconsistently. Detecting pictures are as advanced pictures. The picture should be expertly processed productively. As of late, Orfeo tool slash is utilized to process pictures in enormous volumes [3], joined with MapReduce and Hadoop Conveyed Record Framework (HDFS). Orfeo brings about an proficient and decreased execution time, yet weaknesses in fast information handling. An issue with the large information scientific was the absence of coordination between databases. In this way, experts were blocked by a dull procedure of trading information from the database [4]. The examination of information utilizing Hadoop brings about quick parallel handling of information. Numerous information mining calculations are moving towards Hadoop, yet the accelerate of the parallel k-means algorithm is not linear in type. The principle reason brings about nonlinear were that the correspondence overhead increments as increment the dataset size. These issues can be understood by utilizing real time analytical architecture.

Remote sensors gather a lot of information from the satellite. The gathered information has no significance. The helpful information needs to get the concentrate from the gathered information. Now and again, the gathered

# Using Reference Image an Alternative Approach of Steganography

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**Abstract**-This paper is to create a practical steganographic implementation for 4-bit images. The proposed technique converts 4 bit image into 4 shaded Gray Scale image. This image will be act as reference image to hide the text. Using this grey scale reference image any text can be hidden. Single character of a text can be represented by 8-bit. The 8-bit character can be split into 4X2 bit information. If the reference image and the data file are transmit through network separately, we can attain the effect of Steganography. Here the image is not at all unclear because said image is only used for referencing. Any huge amount of text material can be hidden using a very small image. Decipher the text is not possible intercept the image or data file separately. So, it is more secure.

**Keywords**- Steganography; Bitmap Image; Reference Image, Bit Depth

## I. INTRODUCTION

The growth of high-speed computer networks and that of the Internet, in particular, has increased the ease of Information Communication. Ironically, the cause for the development is also of the apprehension use of digital formatted data. In comparison with Analog media, Digital media offers several distinct advantages but this type advancement in the field of data communication in other sense has hiked the fear of getting the data intercepted at the time of sending it from the sender to the receiver.

Cryptography was created as a technique for securing the secrecy of communication and many different methods have been developed to encrypt and decrypt data in order to keep the message secret. Unfortunately it is sometimes not enough to keep the contents of a message secret, it may also be necessary to keep the existence of the message secret. The technique used to implement is called steganography. It is the art and science of invisible communication. This is accomplished through hiding information in other information, thus hiding the existence of the communicated information.

The aim of this paper is to create a practical steganographic implementation for 4-bit images. The proposed method converts 4 bit image into 4 shaded Gray Scale image. This image will be act as reference image to hide the text.

## II. STEGANOGRAPHY

The word steganography is originally derived from Greek words, which mean "Covered Writing". It has been used in various forms for thousands of years. In the 5th century BC Histaiacus shaved a slave's head, tattooed a message on his skull and the slave was dispatched with the message after his hair grew back [1, 2, 3, 4]. In Saudi Arabia at the King Abdulaziz City of science and technology, a project was initiated to translate into English some ancient Arabic manuscripts on secret writing which are believed to have been written 1200 years ago. Some of these manuscripts were found in Turkey and Germany [5]. Five hundred years ago, the Italian mathematician Jérôme Cardan reinvented a Chinese ancient method of secret writing. The scenario goes as follows: a paper mask with holes is shared among two parties, this mask is placed over a blank paper and the sender writes his secret message through the holes then takes the mask off and fills the blanks so that the message appears as an innocuous text. This method is credited to Cardan and is called Cardan Grille [4].

### A. DIGITAL STEGANOGRAPHY

With the boost in computer power, the internet and with the development of digital signal processing (DSP), information theory and coding theory, steganography has gone "digital". In the realm of this digital world steganography has created an atmosphere of corporate vigilance that has spawned various interesting applications, thus its continuing evolution is guaranteed. Contemporary information hiding is due to [6]. One of the earliest methods to discuss digital steganography is credited to Kurak and McHugh [7], who proposed a method, which resembles embedding into the 4 LSBs (least significant bits). They examined image downgrading and contamination, which is known now as image-based steganography. Information can be hidden inside a multimedia object using many suitable techniques. As a cover object, we can select image, audio or video file. Depending on the type of the cover object, definite and appropriate technique is followed in order to obtain security. In this paper, we will discuss techniques or methods by which we can hide text information in data file using a reference image instead of cover image.

# APPLICATION OF IOTBASED HOME APPLIANCES FOR SMART HOME

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## Abstract

Today the technology has grown at high speed. This paper proposes the design of IOT based Home Automation System using Wi-Fi. In home, we use IOT to control home appliances, for example TV, Fan, Refrigerator or any type of electrical appliances. The work deals with discussion about different intelligent home automation system and technologies from a various features. Work focuses on concept of home automation where the monitoring and control operations are facilitating through smart devices installed in home or residential buildings. How to provide fully smart environment condition monitoring by various sensors for providing necessary data to automatically detection and resolution of any problem in the devices controlling home appliances via World Wide Web. IOT uses portable devices as a user interface. Portable devices can communicate with home automation network through an Internet gate by means of low power communication protocols like Zigbee, Wi-Fi etc. Secures Home through web control increases convenience through temperature adjustment, save time, save money and allow to appliances control when out of town safety from intrusion, theft, fire and leakage of flammable gas the most important requirements of home security system for the people. Home automation allows us to control household appliances like light, door, fan, AC etc. Home automation not only refers to reduce human efforts but also energy efficiency and time saving. In recent years, these appliances can be monitored and controlled by embedded microprocessors and be displayed on terminals.

Keywords- Home Automation, Zigbee, microprocessors, sensors, portable devices

## INTRODUCTION

A home automation system allows users to control electric appliances of varying kind. IOT is a system of automatically controlling devices which are to be used in our home through internet from anywhere in the world. Home automation provides convenience, comfort, security and energy efficiency. Authorized users can access the system with their smart phone applications using the internet via Wi-Fi. Home automation systems use different wireless communication standards like Zigbee, Wi-Fi, and also Global System for Mobile Communication (GSM). Over-wired technologies wireless gives reduced installation cost, time saving and scalability. The IOT is a network of physical devices, vehicles, buildings and other items are embedded with electronic sensors and network connectivity enables these objects to collect and exchange data. Internet of Things (IOT) uses most common devices such as mobile, sensor, watch, TV connect to the internet using wireless technology. Through the Internet IOT makes them capable to communicate and transfer data via internet to server and also read data from server. IOT monitoring and controlling the Electrical/Electronic appliances remotely. Switches of those Electrical and Electronic appliances are integrated to the system in order to demonstrate the effectiveness and feasibility of the system [1]. This system eliminates the use of personal computers (PC) and its peripheral devices which provides easy mobility.

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# A STUDY ON AWARENESS OF GOOD HEALTH AND WELL-BEING EDUCATION OF UNDER GRADUATE LEVEL WOMEN STUDENTS FOR SUSTAINABLE DEVELOPMENT

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Working on the path of sustainable development will require a profound re-examination of how we think and act. To create a more sustainable world and to engage with sustainability-related issues as described in the SDGs, individuals must become sustainability change-makers. They require the knowledge, skills, and attitudes that empower them to contribute to sustainable development. Education, therefore, is crucial for the achievement of sustainable development. However, not all kinds of education support sustainable development. Education that promotes economic growth alone may well also lead to an increase in unsustainable consumption patterns.

The new well-established approach of Education for Sustainable Development (ESD) empowers learners to take informed decisions and responsible actions for environmental integrity, economic viability and a just society for present and future generations. ESD aims at developing competencies that empower individuals to reflect on their own actions, taking into account their current and future social, economic and environmental impacts, from a local and a global perspective. Individuals should also be empowered to act in complex situations in a responsible manner, which may require them to strike out in new directions and to participate in socio-political processes, moving their societies towards sustainable development. ESD has to be understood as an integral part of quality education, inherent in the concept of lifelong learning.

  
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Formal institutions – from preschool to tertiary education – can and should consider it their responsibility to ensure that formal education –