

## SOME SPECIAL CHARACTERISTICS OF LATTICE ORDERED COMMUTATIVE LOOPS

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**ABSTRACT.** In this paper, we have shown that a commutative l-group resembles like a commutative l-group, and most of the features of l-groups are retained by the l-loop. After developing some of the relevant properties of an l-loop, we have characterised its positive cone, obtained a necessary and sufficient condition for an l-loop to become an l-group and for it to be totally ordered.

### 1. INTRODUCTION

In 1967, G. Birkhoff in Lattice Theory, various properties of lattice ordered groups were established. In 1970, T. Evans described about lattice ordered loops and quasigroups. In 1990, Hala made a description on quasigroups and loops [1-3]. In view of this a lot of interest has been shown different authors develop these concepts in different algebraic systems [4-13]. In 2019, B.Sailaja, V.B.V.N. Prasad, developed exploring the axiom of excluded middle and axiom of contradiction in fuzzy sets. In 2020, R. Sunil Kumar and V.B.V.N. Prasad were gave some special characteristics of Atoms in Lattice ordered loops and in 2020, V.B.V.N.Prasad, T. Rama Rao and some authors were gave Some Basic Principles on Posets, Hasse diagrams and lattices [14-16].

In this manuscript, we have shown that a commutative l-group resembles like a commutative l-group, and most of the features of l-groups are retained by the

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Key words and phrases. Loops, partial order, lattices, ordered abelian groups.

# Some Basic Principles on Posets, Hasse Diagrams and Lattices

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## Article Info

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**Abstract:** In this paper we give some important definitions, examples and properties of partly ordered sets or simply a poset, Hasse diagrams and Lattices.

**Keywords:** Partial ordered set, hasse diagram, lattices etc.

## Article History

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## I. Introduction

In 1963 Gabor Szasz [1], was introduced in Introduction to Lattice Theory definitions and some examples and in 2010 S. Santha [2] gave some more examples of posets, hasse diagrams and lattices. In 2013, V. B. V. N. Prasad & J V Rao, were published Characterization of Quasi groups and Loops [3], Classification of partially ordered loops and lattice ordered loops [4], in 2014 they were published Classification of "Normal sub loop and Ideal of loops" [5] and in 2014 Cones in Lattice ordered loops [6] were published in lattice ordered loops.

## II PARTIAL ORDERED RELATION

**Definition 2.1:** "A partly ordered set is a system comprising of a non-empty set  $P$  and a binary relation  $\leq$  on  $P$  such that the following conditions are satisfied  $\forall x, y, z \in P$ ".

- (i) "Reflexive:  $x \leq x$
- (ii) Anti-symmetric:  $x \leq y$  and  $y \leq x \Rightarrow x = y$
- (iii) Transitive:  $x \leq y$  and  $y \leq z \Rightarrow x \leq z$ "

**Note 2.1:** We call the relation " $\leq$  (less than or equal to)" is a partial order on the set  $P$  and  $P$  is said to be "a partly Ordered set" or a "Partially Ordered set" or simply a "Poset" by the relation " $\leq$ ".

**Note 2.2:** It is easy to observe that if  $\leq$  is a partial order on  $P$  then  $\geq$  is also a partial order on  $P$  and we call the partly ordered set  $(P, \geq)$  the dual of the partly ordered set  $(P, \leq)$ .

**Definition 2.2:** "Let  $(P, \leq)$  be a poset, the elements  $a, b \in P$  are said to be 'comparable' if either  $a \leq b$  or  $b \leq a$ . Otherwise they are called 'incomparable' elements".

**Definition 2.3:** If  $(P, \leq)$  is a poset and the elements  $a, b \in P$  are comparable then  $(P, \leq)$  is called a chain.

**Definition 2.4:** Let  $R$  be a nonempty subset of a partly ordered set  $P$ . An element  $a \in P$  is known as an upper bound of  $R$ , if  $x \leq a \forall x \in R$ . If  $R$  has at least one upper bound then we say that  $R$  is bounded above in  $P$ .

**Definition 2.5:** An upper bound  $a$  of  $R$  is said to be a (LUB) least upper bound of  $R$  if, for some upper



# Some Special Properties Of Ideals And Congruences In Lattice Ordered Commutative Loops

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## Abstract:

*This manuscript illustrates the significance of a normal subloop,  $l$ -morphism,  $l$ -ideal of an  $l$ -loop also we have succeeded in determining a corresponding congruence relation on the  $l$ -loop and establishing a one-to-one correspondence between the  $l$ -ideals and congruence relations of an  $l$ -loop  $A$ .*

**Key words:** Loops, partial order, lattices, ordered abelian groups, Ideals-congruence relations

**A.M.S. Mathematics subject classification numbers (2020):** 20N05, 06A06, 06Bxx, 06F20, 06B10

## 1. INTRODUCTION:

In 1967, G.Birkhoff in Lattice Theory, various properties of lattice ordered groups were established. In 1970, T.Evans described about lattice ordered loops and quasigroups. In 1990, Hala made a description on quasigroups and loops [1-3]. In view of this a lot of interest has been shown different authors develop these concepts in different algebraic systems. In 2014, V. B. V. N. Prasad and J. Venkateswara Rao, were gave Categorization of Normal Sub Loop and Ideal of Loops. In 2019, B.Sailaja, V.B.V.N.Prasad, developed exploring the axiom of excluded middle and axiom of contradiction in fuzzy sets. In 2020, R.Sunil Kumar and V.B.V.N.Prasad were giving some special characteristics of Atoms in Lattice ordered loops and in 2020, V.B.V.N.Prasad, T.Rama Rao and some authors were gave Some Basic Principles on Posets, Hasse diagrams and lattices. In 2020, V. B. V. N. Prasad<sup>1</sup>, K. Prasad, Mudda Ramesh, Rama Devi Burri and T. Rama Rao were established Some Special Characteristics of Lattice Ordered Commutative Loops. In 2020, Praveen Vardhan Kuppili, V.B.V.N. Prasad, Application of Translates of Vague Set on Suspected Cases of Corona Virus Disease-2019 (COVID-19), [4-9].

## 2. L-IDEALS:

**Definition 2.1:** Let  $A$  be an  $l$ -loop. For  $a, b \in A$ , we define  $a * b = (a \vee b) \wedge (b \vee a) = a \vee b \wedge a \vee b$ .

**Lemma 2.1:** Let  $A$  be a  $l$ -loop. Then  $\forall a, b \in A$

1.  $a * b \geq 0$  with equality if and only if  $a = b$ .
2.  $a * b = b * a$ .
3.  $(a \vee b) * (a \wedge b) = a * b$ .

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# Simultaneous Spectrophotometric Estimation of Copper(II) and Iron(III) by using 3, 4 dihydroxy benzaldehyde-1- (3 chloro- 2-Quinoxaliny) hydrazine (3, 4-DHBCQH) in presence of Neutral Tween-80 Micelles

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**Abstract:** 3, 4 dihydroxy benzaldehyde-1- (3 Chloro- 2-Quinoxaliny) hydrazone (3, 4-DHBCQH) has been synthesized, characterized and employed as a simple simultaneous second order derivative spectrophotometric method for the analysis of a three-component system containing Copper(II) and Iron(III) without separation. The reagent (DHBCQH) reacts with Copper(II), and Iron(III) at pH 6.5, forming soluble orange red coloured species. Copper and Iron present in the mixture are simultaneously determined without solving the simultaneous equations by measuring the second derivative amplitudes at 430 nm and 420 nm, respectively.

Further, the derivative amplitudes obey Beer's law at 430 nm and 420 nm for Cu(II), and Fe(III) in the range 30.0 – 110 ng/ml and 25.0 – 95 ng/ml, respectively.

A large number of additional ions did not interfere with the method. The simultaneous method can be applied for the determination of copper(II) and Iron(III) in grape leaf sample.

**Keywords:** Spectrophotometric Determination, Iron, Copper, 3,4-DHBCQH, Surfactant Tween-80.

## I. INTRODUCTION

Copper is a widely distributed metal in nature, and is an essential metal required by almost all living organisms in some of their biological activities. Deficiency of copper may lead to certain physiological disorders in both plants and animals, but at higher concentrations it works essentially as a pollutant. Iron is one of the most important transition element in living systems, being vital to both plants and animals.

The stunted growth of the former is well known in soils, which are either themselves deficient in iron or in which high alkalinity renders the iron too insoluble to be accessible to the plants. Iron was the first minor element to be recognized as being essential to human being and was used in the treatment of anaemia. The unique characteristics of micellar media promoted their widespread use in separation science and in chemical analysis. These include just their use to enhance one of the phenomenal phase is enhancing analyte/analytical reagents in water.

This eliminates the need for harsh solvent/water miscible organic co-solvents for solubilization. The enhanced extinction coefficient of coloured species increases the sensitivity (microgram to sub microgram through nanogram) and batho/hipso chromic shift of spectral profile results in selectivity of analytes.

Hydrazides and hydrazones found extensive applications in pharmaceutical preparations, analytical chemistry for detection/determination of low concentration of metal ions and intermediate/starting molecules in the preparation/synthesis of high impact chemical moieties.

Hydrazones are the condensation moieties of hydrazides/hydrazines with aldehydes/ketones with astounding chelating characteristics with metal ions in solution/solid phases. The multifaceted explorative research studies opened new vistas in analytical chemistry and biochemical interactions in\_vitro/in\_vivo/in\_silico.





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**SECOND ORDER DERIVATIVE SPECTROPHOTOMETRIC DETERMINATION OF  
Fe(II) USING 3, 4-DIHYDROXYBENZALDEHYDE THIOSEMICARBAZONE (DHBTS)C  
IN PRESENCE OF MICELLE MEDIUM**

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**ABSTRACT**

A rapid and sensitive method has been developed for the determination of Fe(II) based on complexation reaction between the metal ion and 3,4,-dihydroxybenzaldehydethiosemicarbazone (DHBTS)C in the presence of non-ionic surfactant Tween-80. The important parameters affecting the analytical procedure were optimized. Absorption maximum for a ternary complex was noted at  $\lambda_{\max}$  365 nm. The reaction was found to be rapid at room temperature and absorbance remained constant for more than 24h. The method obeys Beer's law in the range 13.96 to 97.73 ng /ml. The apparent molar absorptivity of  $4.21 \times 10^5 \text{ L mol}^{-1} \text{ cm}^{-1}$  and Sandell's sensitivity 0.013ng/ml. The effect of foreign ions was tested by taking a constant concentration of metal ion and determining its concentration in the presence of  $\geq 100$  folds in excess of foreign ions. The method was successfully used in the determination of Iron(II) in Leaf sample. Second order derivative spectrophotometric methods were developed at  $\lambda_{\max}$  485nm for the determination of Iron, which was more sensitive than the zero order method.

**Keywords:** Spectrophotometric Determination, Iron, 3,4-DHBTS, Surfactant  
Tween-80, Leaf sample



## Autism Detection and Sub-grouping

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### ABSTRACT

This paper is regarding Autism spectrum disorder(ASD) and its prevalence based on age. Three datasets from different sources are collected and an additional dataset was obtained from NSCH which consists of several attributed have undergone preprocessing and principal component analysis was applied in-order to achieve highest accuracy i.e., an approximate of 99% for all the datasets used. In addition to this, the study also includes the sub-grouping i.e., the disorders under the spectrum of ASD and the correlation between age and the disorder.

**Key words** : Autism Spectrum Disorder (ASD), DSM-5 (The Diagnostic and Statistical Manual of Mental Disorders), NSCH (National survey of child health ).

### 1. INTRODUCTION

Autism is defined as a developmental disorder with the difficulty of cognition, physical impairment, etc. Several types of research are conducted on autism in different areas. However, we are concerned regarding the types of disorders in the spectrum of ASD. As early studies reveal that even autism was treated as schizophrenia until 1943. By referring to the existing database, we can provide an alternative diagnosis with the aid of machine learning techniques.

This study a continuation of our earlier study of subgrouping the disorders using DSM-5. We considered several factors like gender, history of disorders, symptoms, etc. We would like to add the new attribute i.e, the age. The datasets we are dealing with are of three different age groups and we have so far conducted four machine learning classification techniques.

The proposed study aims at building a mobile screening tool that may be used by the citizens at the comfort of their own home and can assess regarding the type of disorder, Whether the disorder is in the spectrum of autism and treatments that are currently preferred by the medical experts for the disorders.

### 2. LITERATURE SURVEY

The three datasets of different age groups are collected from the survey conducted by F.Abdeliaber in [1]. Several screening processes were conducted in [2,4,5,12]. However, we used different classifiers for the existing datasets. In [1] and [4] same datasets were used generated from a mobile screening app where the former used ten-fold cross-validation using if-then rules and obtained an accuracy around 90% and the latter performed KNN (K-Nearest Neighbor) and LDA(Linear Discriminant analysis) and best of them turned out to be LDA with an accuracy of 90%.

The new screening process was introduced in [10] using MRI Scans and [13] has introduced similar technique using Neural networks classifier. The idea of considering age as an attribute as it was mentioned in [8] that early symptoms prediction in children is difficult.

The role of DSM in the decision making of clinicians and medical experts is cited in [3,7]. In [7], DSM-IV and DSM-V are compared and the stringent nature, advancements in DSM-V that meet the criteria of ASD diagnosis are incorporated. In [3], the ideas of sub grouping of ASD and the significance of it during diagnosis are acknowledged. The basis of sub grouping in [3] is from clinical samples of [7,9] and some existing datasets. The specifiers in DSM-5 are mentioned which aid the phenotypic characterization.

### 3. METHODOLOGY

In this study, data is collected from three different sources in raw formats. The datasets are of different age groups i.e., adult, adolescent, and toddler. Besides this we collected a dataset from NSCH. All these datasets are preprocessed for further applying the classification algorithms of machine learning. Later, machine learning algorithms Naive Bayes, Neural Networks, Support vector machine and random forest are applied. For achieving better accuracy, principal component analysis is applied to the existing datasets.





# Extended Range Hybrid Type Full Bridge DC-DC Converter with Z-Source Converter

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## To Cite this Article

B. Srujana and B. Lakshmana Nayak, "Extended Range Hybrid Type Full Bridge DC-DC Converter with Z-Source Converter", *International Journal for Modern Trends in Science and Technology*, Vol. 04, Issue 04, August 2018, pp.-38-44.

## ABSTRACT

This paper presents a hybrid type Z-Source full-bridge dc/dc converter with high efficiency. Using a hybrid control scheme with a simple circuit structure, the proposed dc/dc converter has a Z-Source impedance which will extend the range of the full bridge converter. Under a normal input range, the proposed converter operates as a phase-shift full bridge series-resonant converter that provides high efficiency by applying soft switching on all switches and rectifier diodes and reducing conduction losses. When the input is lower than the normal input range, the converter operates as an active-clamp step-up converter that enhances an operation range. Due to the hybrid operation, the proposed converter operates with larger phase-shift value than the conventional converters under the normal input range. Thus, the proposed converter is capable of being designed to give high power conversion efficiency and its operation range is extended. A 1-kW prototype is implemented to confirm the theoretical analysis and validity of the proposed converter.

**Keywords**— Active-clamp circuit, full-bridge circuit, phase shift control.

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## 1. INTRODUCTION

A dc-to-dc converter is an electromechanical device or electronic circuit which converts a source of direct current from one voltage level to another. It is a type of electric power converter. Power levels range from very (small batteries) to very high (high-voltage power transmission). Nowadays, demands on dc/dc converters with a high power density, high efficiency, and low electromagnetic interference (EMI) have been increased in various industrial fields. As the switching frequency increases to obtain high power density, switching losses related to the turn-on and turn-off of the switching devices increase. Because these losses limit the increase of the switching frequency, soft switching techniques are indispensable.

Dc to dc converters are used in portable electronic devices such as cellular phones and laptop computers, which are supplied with power from batteries primarily. Such electronic devices often contain several sub-circuits, each with its own voltage level requirement different from that supplied by the battery or external supply (sometimes higher or lower than the supply voltage). Additionally, the battery voltage declines as its stored energy is drained. Switched dc to dc converters offer a method to increase voltage from a partially lowered battery voltage thereby saving space instead of using multiple batteries to accomplish the same thing.

Most dc to dc converter circuits also regulate the output voltage. Some exceptions include high-efficiency LED power sources which are a kind of dc to dc converter that regulate the





# Energy Management for a Integrated PV-Wind-Diesel-Battery Based Microgrid for a Remote Area Power Supply

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## ABSTRACT

In order to study uncertainty and intermittent characteristics of wind power and wave power, this paper proposes an integrated wind- and wave power generation system fed to a power grid or connected with an isolated load using a DC micro grid. The studied integrated system consists of a wind power generator, a wave-power generator, a bidirectional DC/DC converter, and a grid tied inverter. An energy storage device is connected to the DC side of the proposed DC micro grid through a bi-directional DC/DC converter. Both wind and wave power generation systems are modeled and simulated using the written program based on MATLAB/Simulink. Steady state and dynamic responses of the studied system under various operating conditions are carried out. To examine the fundamental operating characteristics of the proposed integrated system, a laboratory-scale platform is also established. The experimental results reveal that the studied integrated system can maintain stable operation to supply power under different operating conditions using the proposed DC micro grid.

**Keywords—** Bidirectional dc/dc converter, bidirectional grid tied inverter, dc microgrid, load dc/dc converter, stability, voltage source converter (VSC), wave power generator, wind power generator.

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## I. INTRODUCTION

In recent years, renewable energy and distributed generation systems (DGS) have attracted increasing attention and have been extensively researched and developed. They gradually alter the concepts and operations of conventional power-generation systems. The rise in several countries makes it possible that this kind of DGS can be practically applied to a grid-tied system or an isolated system with wind power, solar energy, hydro power etc. The output of DGS usually includes two kinds: DC and variable AC. Besides,

the generating capacity of DGS comparing with conventional large synchronous generators is much smaller and, hence, the DC micro grid can be practically applied to convert the generated time-varying quantities of natural renewable energy and DGS into smooth DC electricity that can then be converted back into AC quantities delivered to other power systems [1], [2]. Since the intermittent of renewable energy and DGS, bi-directional DC/DC converters are usually necessary to feed the connected loads with smooth power [3].





# Power Quality Improvement of Utility Current in a PV Based Shunt Active Filter using P-Q Theory

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## ABSTRACT

Nowadays, the active filters represent a viable alternative for controlling harmonic levels in industrial consumers' electrical installations. It must be noted the availability of many different types of filter configurations that can be used but there is no standard method for rating the active filters. This paper focuses on basic principle of SAPF and the theoretical concepts describing the shunt active power Filter structure and design. The filter controller is based on instantaneous power theory (p-q theory) and the circuit performing as an inverter with PWM hysteresis control. To validate the performance of shunt active filters a Matlab-Simulink model was developed. Simulation results are presented which verifies the power quality of the grid is enhanced

**Keywords**— Active power \_lter (APF), instantaneous power theory, photovoltaic (PV), power quality, renewable energy.

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## I. INTRODUCTION

The power quality (PQ) problems in power distribution systems are not new, but only recently the effects of these problems have gained public awareness. Advances in semiconductor device technology have fuelled a revolution in power electronics over the past decade, and there are indications that this trend will continue [1]. However these power equipments which include adjustable-speed motor drives (ASDs), electronic power supplies, direct current (DC) motor drives, battery chargers, electronic ballasts are responsible for the rise in related PQ problems [2]-[4]. These nonlinear loads are constructed by nonlinear devices, in which the current is not

proportional to the applied voltage. A simple circuit as shown in Figure 1.1 illustrates the concept of current distortion. In this case, a sinusoidal voltage is applied to a simple nonlinear resistor in which the voltage and current vary according to the curve shown. While the voltage is perfectly sinusoidal, the resulting current is distorted.

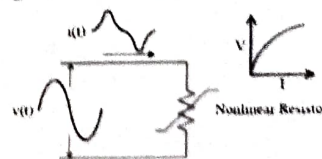


Figure 1.1 Current distortion caused by nonlinear resistance

Nonlinear loads appear to be prime sources of harmonic distortion in a power distribution system. Harmonic currents produced by nonlinear



# A Fuzzy Based PV Active Power Filter for Compensating Current for Grid Connected System

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## ABSTRACT

The photovoltaic (PV) generation is increasingly popular nowadays, while typical loads require more high-power quality. Basically, one PV generator applying to nonlinear loads is desired to be integrated with a function as an active power filter (APF) and a logic circuit. A three-phase three wire system, including a detailed PV generator, dc/dc boost converter to extract maximum radiation power using maximum power point tracking, and dc/ac voltage source inverter to act as an APF, is presented. The instantaneous power theory is applied to design the PV-APF controller, which shows reliable performances. A Fuzzy Controller is introduced in this paper in order to improve the system performance. The MATLAB/Simulink tool has proved that the combined system can simultaneously inject maximum power from a PV unit and compensate the harmonic current drawn by nonlinear load.

**Keywords:** Harmonic Current, Total Harmonic Distortion, PV system, Power Quality.

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## 1. INTRODUCTION

In the present scenario, power quality and power supply are the main problems in power system. So that, the DG systems has got lot of importance because of the limitation of conventional power generation. The main advantage of DG system is more productive, high quality, and providing power to loads to maintain continuous administration. Therefore, the PV system is considered as a finite, uncontaminated alternative resource. In PV systems, there is a possibility to convert the solar energy to electrical energy without any interruptions. The efficiency of the solar system can be improved by using general MPPT. The frequently used MPPT techniques are given below.

1. P&O Technique.
2. INC Technique.
3. Fuzzy based MPPT Technique.

The maximum utilization of power electronic systems can produce nonlinearity in network, and its effects on overall system performance. To mitigate problems caused by harmonics, some filter components are used inside the system.

Generally, passive filters is a solution to reduce the harmonics. But these passive filters are responsible for resonance type problems occurred in grid. So that, active power filter is the better solution as compared to general filters for compensating harmonics.

In this paper, PV APF system is proposed which produces an UPF supply to utility and non harmonic current to the loads.

### a. Structure of PV-APF System:

The effective utilization of generated power with more flexible can be achieved by the concept of Grid interconnected PV system. The utilization of



# An Artificial Neural Network Genetic Algorithm with Shuffled Frog Leap Algorithm for Software Defect Prediction

S.V.Achuta Rao, P.Santosh Kumar Patra

**Abstract:** Defect prediction performances are significant to attain quality of the software and to understand previous errors. In this work, for assessing the classification accuracy, precision, and recall and F measure for various classifiers are used. The artificial neural network optimizations make the assumption that more than two algorithms for one optimization have been implemented. The optimization makes use of a heuristic for choosing the best of the algorithms for being applied in a particular situation. An approach of hybrid optimization for designing of the linkages method and is used for the dimensional synthesis of the mechanism. The ANN models are assisted in their convergence towards a global minimum by the multi-directional search algorithm that is incorporated in the GA. The results have shown an accuracy of classification of the NN-hybrid shuffled from algorithm to perform better by about 5.94% than that of the fuzzy classifiers and by about 3.59% of the NN-Lm training and by about 1.42% of the NN-shuffled frog algorithm..

**Keywords :** Hybrid Optimization, Fuzzy Classifiers, Defect Prediction, Classification and Hybrid Shuffled Frog Leap.

## I. INTRODUCTION

The practice of identifying the defective software system parts is referred to as SDP. The software defects can be effectively predicted using The Software Defect Prediction Model (SDPM). Such models can use various software metrics that are available for carrying out the SDP mechanism. The Efficiency of SDP is needed for all software systems. In the first place, it enhances both the quality and the testing efficiency. It enhances customer satisfaction in the second place. Next, it reduces the cost of defect correction and finally, it aids in the delivery of reliable software. In order to predict the defects in an efficient manner the developers may adopt many techniques for achieving the results desired. Many techniques are needed to ease this process. The choice of technique however, is a factor that has some concern. Many soft computing approaches are suggested for SDP. Soft computing is that which is used for the combination of techniques of computer science like Artificial Intelligence (AI), Machine learning techniques and other disciplines of engineering. Many models are being proposed for the SDP that use different techniques of machine learning for learning and predicting the defected modules in

the software system. A latest class of heuristics of optimization are considered here. For constructing a hybrid register allocator that makes a choice from two register allocation algorithms which are linear scan and graph colouring. Most of the SDP studies aim in correctly classifying the software artefacts like the subsystems or the files to make them fault-prone or not. The other SDP studies have been interested in the prediction of the defects that are part of the software artefacts to ensure they are ranked.

The objective is to create an allocator which will strive to get the required balance between 2 factors that strive to select a better packing of variables for the registers (ensuring efficient run time performance is achieved) also making an attempt to bring down the allocator's overhead. The complications that arise out of real world problems taking into consideration the necessity for advanced formulas of optimization for assisting in the problems of optimization.

The main aim of these problems is the calculation of minimum objective functions and most of the algorithms that are population based have been proposed for finding optimal solutions and the metaheuristics has been able to establish itself as a practical approach for simulating solutions that are optimal. But the researcher has to make not that all these methods have been designed for solving combination optimization issues and for implementing this and does not ensure the availability of simulated noises.

There are some disadvantages in the ANN and it is that there is a fixation at a local minimal point and also a snail pace learning process. like any typical ANN, for machine defect, the BP network is used and its identification will its superior ability of nonlinear mapping. But it does have many shortcomings like a sluggish convergence and low precision of solution. Normally the parameters of training of the BP network model are selected in a random manner. Because of this, the starting weights and their thresholds are capable of being assigned in an inappropriate manner. Thus, it is easy for them to fall into a local extreme fat the time of the training for this network. In this literature, certain algorithms are attempted for improving the BP network's performance.

## II. LITERATURE SURVEY

A hybrid optimization reduces the compilation effort that uses an effective algorithm mostly but also uses a very costly and efficient algorithm for optimization which seldom when it deserves gets the extra advantage that may be worth all its effort.

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# UNSIGNED AUTHENTICATION WITH DECENTRALIZED ACCESS CONTROL OF DATA STORED IN CLOUD

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## ABSTRACT

Here we propose a new limited access management scheme for secure data storage in clouds that provides anonymous verification. With this proposed theme, the cloud confirms the credibility of the user at the time not knowing the user's identification before storing data. Our scheme additionally has the other feature of access management during which single valid user's square measure ready to decrypt the kept data. This prototype prevents rerun attacks and supports creation, insertion, and reading data kept within the cloud storage. We tend to as well as address user revocation. Moreover, our validating and access control management theme is localized and robust, not like other access management systems designed for clouds storage that square measure central. The message, computation, and storage expenses overheads measure more centralized approaches.

## 1. INTRODUCTION

Research in distributed computing is accepting a ton of consideration from both scholarly and modern universes. In distributed computing, clients can outsource their calculation and capacity to servers (likewise called mists) utilizing Internet. This liberates clients from the bothers of keeping up assets on location. Mists can give a few sorts of administrations like applications (e.g., Google Apps, Microsoft online), foundations (e.g., Amazon's EC2, Eucalyptus, Nimbus), and stages to offer engineers some assistance with writing applications (e.g., Amazon's S3, Windows Azure).

A great part of the information put away in mists is exceedingly delicate, for instance, restorative records and interpersonal organizations. Security and protection are hence critical issues in distributed computing. In one hand, the client ought to verify itself before starting any exchange, and then again, it must be guaranteed that the cloud does not mess around with the information that is outsourced. Client protection is additionally required so that the cloud or different clients don't have a clue about the character of the client. The cloud can consider the client responsible for the information it outsources and in like manner, the cloud is itself responsible for the administrations it gives. The legitimacy of the client who stores the information is likewise checked. Aside from the specialized answers for guarantee security and protection, there is additionally a requirement for law implementation.

As of late, Wang et al. [2] tended to secure and reliable distributed storage. Cloud servers inclined to Byzantine disappointment, where a capacity server can fall flat in self-assertive ways [2]. The cloud is additionally inclined to information alteration and server conspiring assaults. In server intriguing assault, the enemy can trade off

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## SMART WORK THROUGH SOFT SKILLS

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### ABSTRACT



"Personality and soft skills are the indispensable wheels that help the monolith of modern industry run smoothly." In the process of globalization different trends have been emerging in teaching learning process specifically in the field of English language and communication. In conjunction with hard skills and domain expertise, soft skills play an important role in the first job interview one faces, but also for subsequent career advancement.

In my paper I would like to discuss soft skills as one of the emerging trends in English language pedagogy. Soft skill is a term often used by career advisers and employers to describe the kind of essential personal and social skills people need to do most jobs. Beyond educational qualifications, technical expertise and quantitative expertise, there lies the importance for soft skills. Soft skills help us to excel in our positions. Knowing how to get along with the people and displaying a positive attitude are crucial for success.

**Keywords:** Career Advisers, Essential Personal Skills, Quantitative Expertise

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Sociologists define the term soft skill as 'Emotional Intelligence Quotient.' They are non-technical, intangible personality specific skills that made a person a leader, negotiator and conflict mediator. Hard skills on the other hand are said to be 'Intelligence Quotient', i.e., the educational qualifications, experience and expertise etc. With increased globalization and rapid changing in business expectations, the professional managers seeking something beyond educational expertise, which we call today soft skills. According to the results of research conducted by Stanford Research

Institute, among 500 CEOs long term success in job is 75% due to soft skills and only 25% due to technical skill.

### IMPORTANCE OF SOFT SKILLS

The importance of soft skills often undervalued and there is far less training provided for it than hard skills. Developing soft skills is a hard work. It requires courage and perseverance. It takes discipline to learn these skills. For some people soft skills come naturally but for some, they need to work harder to acquire them. Soft skills are very important to handle inter personal relations, to take



# The Elementary Provisions Of Microstrip Patch Antennas

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**Abstract**-A microstrip patch antenna consists of radiating patch on one side of dielectric substrate and has the ground plane on other side. Microstrip patch antenna can provide frequency agility, feed line flexibility, beam scanning Omni directional pattern. This work explores the performance enhancement of microstrip patch antenna by studying the various papers. The antennas are analyzed using the different antenna parameters like Radiation pattern, Gain, Return loss, Directivity and Radiation pattern. Microstrip patch antennas can be fed by a variety of methods. These methods can be classified into two categories- contacting and non-contacting.

## 1. Introduction

In its most basic form, a Microstrip patch antenna consists of a radiating patch on one side of a dielectric substrate which has a ground plane on the other side as shown in Figure.1. The patch is generally made of conducting material such as copper or gold and can take any possible shape. The radiating patch and the feed lines are usually photo etched on the dielectric substrate.

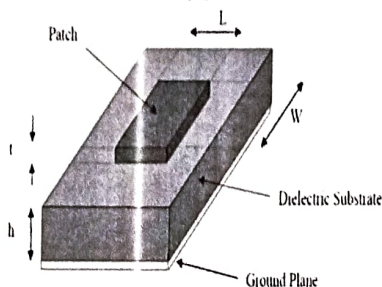


Figure.1 Structure of a Microstrip Patch

### Antenna 1.1 Advantages and Disadvantages

Microstrip patch antennas are increasing in popularity for use in wireless applications due to their low-profile structure. Therefore they are extremely compatible for embedded antennas in handheld wireless devices such as cellular phones, pagers etc.... The telemetry and communication antennas on missiles need to be thin and conformal and are often Microstrip patch antennas. Another area where they have been used successfully is in Satellite communication. Some of their principal advantages discussed by [5] and Kumar and Ray [9] are given below:

- Light weight and low volume.
- Low profile planar configuration which can be easily made conformal to host surface.
- Low fabrication cost, hence can be manufactured in large quantities.
- Supports both, linear as well as circular polarization.
- Can be easily integrated with microwave integrated circuits (MICs).
- Capable of dual and triple frequency operations.
- Mechanically robust when mounted on rigid surfaces.

Microstrip patch antennas suffer from a number of disadvantages as compared to conventional antennas. Some of their major disadvantages discussed by [9] and Garg et al [10] are given below:

- Narrow bandwidth
- Low efficiency
- Low Gain
- Extraneous radiation from feeds and junctions

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2710

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## EXPERIMENTAL ANALYSIS OF PLANT DISEASE DETECTION BY USING K-MEANS CLUSTERING ALGORITHM

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**ABSTRACT:** For the acknowledgment and aversion of disease of plants from getting spread, this paper discussed a system using raspberry PI. For the image examination, the k-suggests gathering count was used. It has various positive conditions for the use in colossal farms of yields and thusly it subsequently perceives signs of affliction at whatever point they appear on leaves of the plant. In pharmaceutical research of leaf ailment ID is basic and essential subject for research since it has points of interest in observing harvests in field at the casing and as such it subsequently recognize appearances of disease by picture taking care of by k-infers grouping computation. The term disease suggests the kind of mischief to the plants. This paper gives the best method to area of plant contaminations using picture getting ready and forewarning about the disease caused by sending email, SMS moreover demonstrating the name of the disease on the screen. show of the proprietor of the system. To refresh provincial things, customized area of contamination indications is profitable. The arrangement and utilization of these developments which is completely customized and it will essentially help in the invention application. It will reduce the cost required for the pesticides and diverse products. This will incite increment in effectiveness of the developing.

**KeyTerms**—Image Processing, GSM, Raspberry Pi Python

### 1. INTRODUCTION

Farming is the foundation of the Indian economy. Immense commercialization of an agriculture has a very negative effect on our condition. The use of chemical pesticides has provoked giant elements of compound advancement in our condition, in soil water, air, in animals and even in our own bodies. Fake manures gives on a fleeting effect on productivity anyway an increasingly drawn out term negative effect

on the environment, where they remain for a significant long time in the wake of depleting and running off, debasing ground water. Another negative effect of this example has been on the fortunes of the farming communities around the globe. Notwithstanding this supposed increased productivity, farmers in every practical sense every country around the world have seen a downturn in their fortunes. This is where organic developing comes in. Normal developing has the capability to manage all of these issues. The central activity of organic developing relies upon treatment, vermin and affliction control. Plant disease acknowledgment through exposed eye view of the reactions on plant leaves, meld rapidly extending of intricacy. On account of this unpredictability and to the broad number of cultivated Crops and their current psychopathological issues, even experienced rustic experts and plant pathologists may consistently disregard to successfully dissect express infirmities, and are accordingly incited stirred up finishes and concern arrangements. An automated system proposed to help recognize plant sicknesses by the plant's appearance and visual indications could be of unprecedented help to fledglings in the rustic technique. This will be exhibit as important strategy for agriculturists and will alarm them at the helpful time before spreading of the disease over vast zone.

Significant learning builds up a continuous, present day framework for image taking care of and data examination, with correct results and large potential. As significant learning has been viably applied in distinctive zones, it has starting late entered furthermore the space of agriculture. So we will apply significant making sense of how to make an algorithm for motorized acknowledgment and game plan of plantleaf diseases. Nowadays, Convolutional Neural





# GLOBAL JOURNAL OF ENGINEERING SCIENCE AND RESEARCHES

## IMPLEMENTATION of DATA LOGGER INTEGRATED with TRANSMITTER and SENSOR

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### ABSTRACT

The Data logger integrated with transmitter and sensor used in AWS (Automatic weather station) products. The data-logger is the heart of the Automatic Weather Station. In high quality weather stations, the data-logger may be designed by the supplier to be the perfect solution for a particular meteorological client. Indeed, usually data-loggers found in the market don't fit the requirement in terms of power consumption, inputs, communication, protection against animals (ants, rats, etc.), humidity, salty air, sand etc. The main functions of a data-logger are (A) Measurement: the data-logger collects the information from every sensor and archives it. Calculation: the data-logger processes most of the meteorological data for the users. (B) Data storage: the data-logger saves all the data either on its own memory or on USB memory card. (C) Power supply: the data-logger manages the power supply of the Automatic Weather Station, using a solar panel for instance. Communication: the data-logger manages the communication protocols with the remote server. The different communication protocols are usually UHF Transmitter and GSM based communication.

**Keywords:** Introduction, Back Ground related project, Design plane, Testing, Result, Reference websites.

### I. INTRODUCTION

This document describes Data logger integrated with sensors. Augmentation of current observation network is essential for providing weather and related information at local level. The AWS is designed as a very compact, modular, rugged, powerful and low cost system and housed in a portable self-contained package. The AWS consists of compact data logger, data transmitter, and crossed Yagi Antenna, GPS, Solar Panel and Meteorological Sensors (Air Temperature, Relative Humidity, Atmospheric Pressure, Wind Direction, Wind Speed, Solar Radiation, Rain Gauge etc...). AWS transmits Meteorological Data from any remote station installed in the footprint of INSAT/KALPANA Satellite.

Minimum Power requirements allow extended field use from a DC Voltage Source. The Automatic Weather Station (AWS) will be installed in the field for collecting Meteorological data. Each AWS will automatically take the observations from all meteorological sensors every hour (or user selected interval) and store data in its memory. The logged data will be transmitted in a self-timed pseudo random manner in its prescribed 10 minutes slots within an hour.

Every AWS transmits its meteorological data in a burst of 68 millisecond duration (at a data rate of 4.8kbps) 3 times within its allotted transmission window. The overall probability of data reception for the system is 95% or better. The data from the AWS network could be received centrally by an Earth Receiving Station (ERS) at the users at the users end. The ERS will receive and process the data transmitted by all AWS's in the field. The Transmitter, Data logger, Power supply and battery are housed in a weather proof enclosure. This AWS operates on a single 12 Volts rechargeable SMF battery, charged by a suitable solar panel.

### II. BACK GROUND RELATED TO PROJECT

An AWS data Receiving Earth Station at Pune will be installed. There will be 550 AWS stations installed all over



# A Design for the Quad Band Pass Filter Using a Stub Loaded Resonator Technique

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**Abstract:** Band pass filters are widely used in wireless transmitters and receivers. A compact Quad band pass filter with stub loaded technique has been designed in this paper. HFSS (High Frequency structure simulator) software is used for the designing purpose. By the help of this technique four (quad) pass band band pass filter has attained. The filter having an insertion loss of 0.8663, 8.1760, 3.0527, 3.8269 and located at 0.7, 1.31, 1.9, 4.2 GHz. The calculated return loss are 19.5, 9.04, 15.8, 19.7 dB.

**Keywords:** Band pass filter, stub loaded technique, resonator, transmitter and receiver.

## I. INTRODUCTION

Various researches have been done on the bandpass filter to meet the requirement for the better results. The research for the tri-band bandpass filter has been done and it was one of the critical frontend components in the cordless communication system and the stub loaded technique was used to attain the triple pass band [1]. The research for the dual-band bandpass filter has been reported and a novel stub loaded resonator has been used for the advantage that the odd mode resonant frequencies can be fixed and the even mode resonant frequencies can be controlled easily [2]. A tri band bandpass filter with a wide stop band was constructed with a asymmetric stub loaded resonator technique and three pass bands were attained [3]. A tri band bandpass filter with a stub loaded technique and Deflected ground resonator (DGS) resonator was constructed to obtain the tri band response [4-5,7]. To obtain the tri-band response a ring resonator with a three pairs of degenerate modes was constructed [6]. The above mentioned filters were made with the large circuit size but a additional loaded stub was applied to the design of tri-bandpass filter to attain the better results [8]. Various multi-band filters were made to attain the better results, such as SIR (stepped impedance resonator) was also used in [9] and coupled stepped impedance resonator was used in [10]. To analyze the resonance characteristic the even odd method is used.

## II. FILTER DESIGN

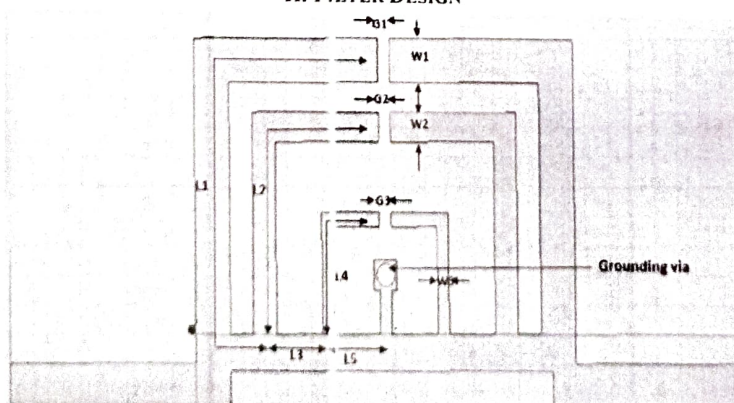


Figure 1: Design of a bandpass filter using multimode stub loaded resonator