K.L.N. COLLEGE OF ENGINEERING, POTTAPALAYAM

Department of Information Technology

Faculty Details as Published National / International Journals

Academic Year: 2017-2018

International Journals = 16   **National Journals = Nil**

Sl. No.	Name of the Faculty	National / International	Title of Journal (Include the DOI, Publishers)	SJR SNIP IPP H Index (2017)	Month & Year of Publication
1	**Dr. R. Alageswaran**	International	**Title:** "Efficient Cloud Based Real Time Water Quality Monitoring System Using Internet of Things" **Author:** Dr. R. Alageswaran **Journal:** Journal of Applied Science and Computations (JASC), Volume 5 Issue 6, ISSN NO 0076-5131, June 2018.	5.8 IF	June - 2018
2	**Dr. G. Ramesh**	International	**Title:** "Image Plagiarism Prevention Using Steganography And Encryption" **Author:** Mr. G. Ramesh **Journal:** International Journal of Engineering and Techniques, Volume 4 Issue 3, April-May 2018.	-	May - 2018
3		International	**Title:** "An Optimal Distributed Routing and Wavelength Assignment in Fault Tolerant Optical WDM network" **Author:** Mr. G. Ramesh **Journal:** International Journal of Electronics Communication and Computer Engineering, (IJECCE), Vol.8, Issue 2, ISSN(Online):2249-071X, ISSN(Print):2278-4209.	-	April - 2018

4	**Dr. G. Ramesh**	International	**Title:** "A Hybird Approach For Secure Message Transmission By Pairwisekey Generation In Vanet Environment" **Author:** Mr. G. Ramesh **Journal:** SSRG International Journal of Computer Science Engineering, (SSRG-IJCSE)- Special Issue ICRMIT, ISSN:2348-8387.	-	March - 2018
5	**Dr. P. Ganesh Kumar**	International	**Title:** "Performance and analysis of Trans multiplexers using Decimator and Interpolator" **Author:** Mr. S. Arun Kumar, Mr. P. Ganesh Kumar **Journal:** Journal of Circuits, systems and Computers(JCSC), World Scientific Publishing Company, Vol.28,No.1,Jan 2019. . ISSN: 0218-1266 (Print): ISSN: 1793-6454 (Online)). Accepted for Publication	**(SCI Indexed) (IF:0.481)**	Jun - 2018
6		International	**Title:** "IoT Based Water Fertigation System and a Method Thereof" **Author:** Mr. Sethuramalingam. Kamalesh, Mr. Parasuraman. Ganesh Kumar **Journal:** Pattern Application Publication (Journal), Application No.201741041658 A, Publication Date:01.12.2017.	**-**	Dec - 2017
7	**Mrs. J. S. Kanchana**	International	**Title:** "Relevant Response Gathering in Social Forum using RapidMiner" **Author:** Mrs. J.S. Kanchana **Journal:** International Journal of Advanced Research in Innovative Discoveries in Engineering and Applications, (IJARIDEA), Vol.3, Issue 2, ISSN(Print):2456-8805.	-	April - 2018
8		International	**Title:** "Stress Detection Using Classification Algorithm" **Author:** Mrs. J.S. Kanchana **Journal:** International Journal of Research & Technology, (IJERT), Vol.7, Issue 4, ISSN(Print):2278-0181.	-	April - 2018
9	**Mrs. J. S. Kanchana**	International	**Title:** "Travel Route Recommendation Using GA Optimization" **Author:** Mrs. J.S. Kanchana **Journal:** International Journal of Engineering and Techniques (IJET), Vol.4, Issue 6, ISSN(Print):2395-1303.	-	April - 2018

10	Mr. S. Ilangovan	International	**Title:** "Improving Classifier Performance using Genetic Feature selector for Effective Data Classification" **Author:** Mr. S. Ilangovan **Journal:** International Journal of Advancements in Computing Technology (IJACT), Vol.9, Number-2, Sep-2017.	-	Sep - 2017
11		International	**Title:** "Improving Medical Diagnosis Performance using Hybrid Feature Selection via relief and entropy based genetic search(RF-EGA) approach: Application to breast cancer prediction" **Author:** Mr. S. Ilangovan, Mr. A. Vincent Antony Kumar **Journal:** Springer - Cluster Computing the Journal of Networks, Software Tools and Applications ISSN:1386-7857. DOI: 10.1007/s10586-018-1702-5.	-	Jan - 2018
12	Mr. S. Ilankumaran	International	**Title:** "Multi-biometric authentication system using finger vein and iris in cloud computing" **Author:** Mr. S. Ilankumaran, C. Deisy **Journal:** Springer - Cluster Computing the Journal of Networks, Software Tools and Applications, ISSN 1386-7857. https://doi.org/10.1007/s10586-018-1824-9.	-	January - 2018
13		International	Title: "Secure Deduplication with Encrypted Data for Cloud Storage" **Author:** Mr. S. Ramesh **Journal:** International Journal of Advanced Research in Innovative Discoveries in Engineering and Applications (IJARIDEA), Volume 3, Issue 2, April-2018.	-	April - 2018
14	Mr. S. Ramesh	International	Title: "A Software-Based Heuristic Clustered (SBHC) Architecture for the Performance Improvement in MANET" **Author:** Mr. S. Ramesh, S. Smys **Journal:** Springer - Wireless Pers Commun (2017) 97: 6343 Online ISSN: 1572-834X. Print: ISSN 0929-6212. https://doi.org/10.1007/s11277-017-4841-8	-	August - 2017
15	Mrs. C. Manjula Devi & Mrs. S. Padmapriya	International	**Title:** "Secure Routing of MANET Using MDSR with SNUPM Algorithm" **Author:** Mrs. C. Manjula Devi, Mrs. S. Padmapriya **Journal:** World Journal of Engineering Research and Technology (WJERT) Vol. 4, Issue 1, 289-299. ISSN 2454-695X.	4.326	December - 2017

| 16 | **Mr. J. Gautam** | International | **Title:** "Avoidance of Black Hole Attack using revised AODY Protocol and Trust Mechanism"
Author: Mr. J. Gautam
Conference: International Conference on Applied Soft Computing Techniques ICASCT-18, ISSN: 2455-1341. | March - 2018 | International |

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Authored by

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From

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5.8 IMPACT FACTOR

RESEARCH ARTICLE   OPEN ACCESS

Image Plagiarism Prevention Using Steganography And Encryption

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Abstract: To design a new technique to mark and encrypt images to identify ownership of copyright of the image. When a user uploads the image in an application it will be encrypted using enhanced LSB Steganography algorithm and then it will be uploaded. This mark is designed to identify the real owner of a image and to claim it's rights. Any other user who wants to upload the marked image must get a key from the owner to decrypt it. The actual user can thereby figure out whether to permit access or block the uploading process.

Keywords – **Steganography, Encrypt, Decrypt.**

1. INTRODUCTION

The photography industry, just like any creative industry, has always had a plagiarism problem. However, in recent months, the issue has been getting a great deal of additional attention. But plagiarism in photography is also starting to move out of the box content and also into other types of media formats. This has been highlighted by a pair of recent scandals have put the focus on the written word rather than photo. The same challenges faced by other industries are now making a way for professional photographers as well and, unfortunately, plagiarism is likely to get a lot worse before it gets any better. Photographers now days are facing an immense pressure to do more work with fewer compliments. It's no longer enough for a photographer to be good at their job and advertise themselves as well. Most are expected to create a blog, maintain a periodically updated photography site, participate in social media contest, write large amounts of advertising content and even create visual effects. Misuse of their works is already a loop hole on the Internet with bloggers and designers treating Google Image Search as a stock photography library, though some of the sales and licensing market for images has been made in recent times, but the new threat seems to be increasing drastically from within the community. Since more photographers enter the market, everyone has put more effort to stay ahead of the competition. Unfortunately, that pressure leads to make bad decisions by the survivors.

2. RELATED WORKS

With the increasing importance of images in people's daily life, content-based image retrieval (CBIR) has been widely studied. Compared with text documents, images consume much more storage space. For privacy-preserving purposes, sensitive images, such as medical and personal images, need to be encrypted before outsourcing, which makes the CBIR technologies in plaintext domain to be unusable. First, feature vectors are extracted to represent the corresponding images. Moreover, the feature vectors are protected by the secure kNN algorithm, and image pixels are encrypted by a standard stream cipher. In addition, considering the case that the authorized query users may illegally copy and distribute the retrieved images to someone unauthorized, we propose a watermark-based protocol to deter such illegal distributions. Hence, when image copy is found, the unlawful query user who distributed the image can

An Optimal Distributed Routing and Wavelength Assignment in Fault Tolerant Optical WDM network

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Abstract

The next generation video enriched applications such as video conferencing and HDTV have raised tremendous challenges on the network design, both in bandwidth and service. As wavelength-division-multiplexing (WDM) networks have emerged as a right candidate for future generation networks with large bandwidth, supporting efficient multicast in WDM networks becomes eminent. Different from the IP layer, the cost of multicast at the WDM layer involves not only bandwidth (wavelength) cost, but also wavelength conversion cost and light splitting cost. In this paper, we develop an optimal distribution of wavelength in fault tolerant networks . We prove that the problem of optimal wavelength assignment on a fault tolerant WDM network is not NP-hard; Simulation results have revealed that the optimal wavelength assignment beats greedy algorithms by a large margin in networks using many wavelengths on each link such as dense wavelength-division-multiplexing (DWDM) networks. The simulation results show that the proposed solution is comparable with the other algorithms that demands for a much higher computational and message costs.

Keywords: RWA, WDM Network, Blocking Probability, Optical Network, Survivable Routing

Introduction

In recent years, there has been a growing demand for networks able to transmit data at increasing speeds. Among the recent technologies used to increase the available link capacity is the wavelength Division Multiplexing (WDM). WDM is a technology which multiplexes several optical signals onto a single optical fiber using different wavelengths, thus augmenting link capacity.[1] In a WDM network, the connections between two nodes are established through the channels of wavelengths that travel in a completely optical path, that is, a path without electro-optic conversion at the source node and optic-electro at the destination node. Such an optical path is referred as a light-path. A link may comprise several wavelengths, that is, λ

$$i \text{ for } 0 \leq i \leq W, \text{ where } W$$

represents the number of wavelengths available. The problem to find a path, i.e. a route, from a source to a destination node in a WDM network with a continuous and free wavelength along each link is non-trivial. Indeed, the above problem is known as the Routing and Wavelength Assignment (RWA) problem and was found to be NP-Complete [2].

Nodes of a WDM optical network may be equipped with wavelength converters. In the optical network when nodes have not equipped with wavelength converters than on each link of the light path, the same wavelength must be used. This restriction has known as wavelength continuity constraints. When a wavelength converter is available at nodes, different wavelength on each link may be used to create a lightpath. This relaxation in wavelength continuity constraints may enhance the network performance. In a wavelength-routed optical network to mitigate the interference with each other, two or more light paths traversing through the same link needs to use different wavelengths[3]. The components of a WDM optical network are prone to hardware failures. Various component of WDM network such as the transceiver, receiver, amplifier, optical cross connect, switch, FDL and fiber links may suffer to failures. These failures interrupt the ongoing services of light paths that are passing through such failed components. In general, most prominent component failure situation is the fiber cable cut due to the laying of longer lengths of cable as backbone networks. Such components failure can result in an enormous amount of information loss and financial revenue

A HYBIRD APPROACH FOR SECURE MESSAGE TRANSMISSION BY PAIRWISE KEY GENERATION IN VANET ENVIRONMENT

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ABSTRACT: Secret key generation by extracting the shared randomness in a wireless fading channel is a promising way to ensure wireless communication security. Previous studies only consider key generation in static networks, but real-world key establishments are usually dynamic. In this paper, for the first time, we investigate the pairwise key generation in dynamic wireless networks with a center node and random arrival users (e.g., roadside units (RSUs) with vehicles). We establish the key generation model for these kinds of networks. We propose a method based on discrete Markov chain to calculate the average time a user will spend on waiting and completing the key generation, called average key generation delay (AKGD). Our method can tackle both serial and parallel key generation scheduling under various conditions. We propose a novel scheduling method, which exploits wireless broadcast characteristic to reduce AKGD and probing energy. We conduct extensive simulations to show the effectiveness of our model and method.

I .INTRODUCTION

Establishing a pairwise secret key between two communication parties is crucial to securing wireless communication. Physical-layer key generation mechanisms that exploit reciprocal and spatial diversity properties of wireless fading channels have been proposed. Based on the reciprocity, the bidirectional channel states should be identical between two transceivers at a given instant of time. In a multipath or mobile environment, the channel states randomly fluctuate due to fading. Therefore, two legitimate parties can take advantage of this natural correlated random process to generate a shared key. Furthermore, the channel state observed at an eavesdropper is uncorrelated with the legitimate channel if the eavesdropper is more than half a wavelength away from legitimate parties. Existing research on physical-layer key generation mainly focuses on key generation rate (KGR) in static wireless networks. Most of the works discussed the KGR between two parties. The maximum KGR assuming no information loss on key generation procedure is bounded by the mutual information between two nodes. Theoretical studies about KGR are done. The studies of KGR considering practical communication condition are addressed.

In this paper, for the first time, we consider the key generation problem in dynamic wireless networks. In such case, using KGR to report the performance of the key generation is no longer appropriate because
1) the KGR of individual user pair is a changing quantity in dynamic wireless networks, affected by the entering and leaving of the key generation of other user pairs, and

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Performance and Analysis of Transmultiplexers Using Decimator and Interpolator*

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This paper deals with the smart applications of multirate digital signal processing. The two major operations are accomplished in consumer electronics and communication engineering. The process of reducing the sampling frequency of a sampled signal is called decimation. In the usage of decimating filters, only a portion of the out-of-pass band frequencies aliases into the pass band, in systems wherein different parts operate at different sample rates. A filter design, tuned to the aliasing frequencies all of which can otherwise stealth into the pass band, not only provides multiple stop bands but also exhibits computational efficiency and performance superiority over the single stop band design. The proposed method of transmultiplexer using decimation and interpolation filters analysis procedure is not only efficient but also opens up a new vista of being simple and elegant to compute for the desired over and above transmultiplexer.

Keywords: Decimator; interpolator; SSB modulator; SSB demodulator; FDM signal; TDM signal; integrator; differentiator.

1. Introduction

Transmultiplexer is an equipment that transforms signals derived from frequency-division multiplex equipment, such group or supergroups, to time-division

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(87) International Publication No	: NA	2)**PARASURAMAN, Ganesh Kumar**
(61) Patent of Addition to Application Number	:NA	
Filing Date	:NA	
(62) Divisional to Application Number	:NA	
Filing Date	:NA	

(57) Abstract :
The present invention relates to the field of automated fertilizer system using wireless communication network system. According to the main aspect of the present invention, the IoT based water fertilization system comprises of a wireless soil sensor arrangement, a control unit, a fertilizer dispenser unit, a water supplying unit and a user interface unit wherein, said soil sensing means is wirelessly connected to the control unit and the fertilizer dispenser unit, the water supplying unit, user interface device are connected with said control unit through wireless sensor network. FIG-1

No. of Pages : 18 No. of Claims : 10

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Relevant Response Gathering in Social Forum using RapidMiner

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Abstract— Social forum helps people in posting queries during emergencies. People use a social forum to get information and help in situations. As a result, a lot of information gets extracted. This paper determines the optimacy of relevant information by using ranking criteria to rank the information. Ranking can be done by different ranking algorithms. It also determines the relevant information that is being posted in the social forum by using the RAPIDMINER tool. Relevant information gets ranked through TextRank Algorithm. The accuracy of the relevant response in the proposed system is determined. Finally, the accuracy of the ranked responses is compared to the existing system.

Keywords: Accuracy, Ranking, Relevance, Response, Query.

I. INTRODUCTION

Web mining is the application of data mining techniques to explore patterns from the World Wide Web. As the name suggests, this information is gathered by mining the web. It makes exploitation of automated apparatuses to reveal and separate data from servers, and it permits organizations to get to both structured and unstructured information from browser activities and other different sources. Web mining can be classified into three different types such as Web usage mining, Web content mining and Web structure mining. Classification is a data mining technique that assigns items in a collection to target categories or classes. The objective of classification is to accurately predict the target class for each case in the data.

Classification can be defined as the process of finding a model (or function) that describes and distinguishes data classes or concepts, for the purpose of being able to use the model to predict the class of objects whose class label is unknown. The derived model is based on the analysis of a set of training data (i.e., data objects whose class label is known). It predicts categorical class labels and classifies data (constructs a model) based on the training set and the values (class labels) in a classifying attribute and uses it in classifying new data. Typical Applications include:
- Credit approval.
- Target marketing.
- Medical diagnosis.
- Treatment effectiveness analysis.

Stress Detection Using Classification Algorithm

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Abstract— **Psychological problems are becoming a major threat to people's life. It is important to detect and manage stress before it turns into a severe health issue. Nowadays people share their feeling in social media regularly. It becomes easy to detect the stress of the users based on their social behavior. Also, traditional stress detection methods are time consuming and costly. So the linguistic attributes in tweets can be leveraged to detect individual user stress. In this project, the stress states of users are classified using Naive Bayes classification algorithm and are categorized into stressed and non-stressed user.**

I. INTRODUCTION

Web Mining is the application of data mining techniques which is used to discover interesting usage patterns from Web data so as to understand and better serve the needs of Web-based applications. Web mining is the collection of information gathered by using traditional data mining methods and techniques with information gathered over the World Wide Web. Web mining is used to analyze customer behavior, evaluate the effectiveness of a particular Web site, and help quantify the success of a marketing campaign.

Classification is a data mining function that assigns item in a collection to target categories or classes. The aim of classification is to accurately predict the target class for each case in the data. For example, a classification model could be used to identify loan applicants as low, medium, or high credit risks. Classification models are tested by comparing the predicted values to known target values in a set of test data.

A Naive Bayes classifier is an algorithm that uses Bayes' theorem to classify objects. Naive Bayes classifiers will assume strong, or naive, independence between attributes present in the data points. Major uses of naive Bayes classifiers are spam filters, text analysis and medical diagnosis. Naive Bayes classifiers are widely used for machine learning because they are simple in implementation. Naive Bayes is also called as simple Bayes or independence Bayes.

II. RELATED WORK

Huijie Lin analysed that users stress state is closely related to that of their friends in social media, and a huge dataset from real-world social platforms is used to analyze the correlation of users' stress states and social interactions. Stress-related attributes like textual, visual, and social attributes are defined, and then a factor graph model combined with Convolutional Neural Network is proposed to make use of the tweet content and social interaction information for stress detection. The

paper revealed that proposed model can improve the detection performance by 6-9 percent. On analyzing the social interaction data further, several intriguing phenomena were discovered, i.e., the number of social structures of sparse connections of stressed users is around 14 percent higher than that of non-stressed users, indicating that the social structure of stressed users tends to be less connected and less complicated than that of non-stressed users. [1]

Jia Jia proposed a stress detection method automatically using cross-media microblog data. A framework of three-level is constructed to design the problem. A set of low-level features is obtained from the tweets. Then, middle-level representations based on psychological and art theories is defined and extracted: linguistic attributes from texts, visual attributes from images, and social attributes from comments. At last, a Deep Sparse Neural Network is created to learn the stress categories. The proposed method is effective and efficient on detecting psychological stress from microblog data. [4]

Ling Feng investigated the correlations between stress state of user and their tweeting content, social engagement and behavior patterns. Then stress-related attributes are defined as follows: 1) low-level content attributes from a single tweet, including text, images and social interactions; 2) user-scope statistical attributes through their weekly micro-blog postings, leveraging information of tweeting time, tweeting types and linguistic styles. The content attributes are combined with statistical attributes, by a convolutional neural network (CNN) with cross auto encoders to generate user-scope content attributes. Finally, a deep neural network (DNN) model is proposed to incorporate the two types of user-scope attributes to detect users' psychological stress. Experimental results show that the proposed model is effective and efficient on detecting psychological stress from micro-blog data. [2]

Jichang Zhao has built a system called MoodLens in which 95 emoticons are mapped into four categories of sentiments, i.e. angry, disgusting, joyful, and sad. These sentiments act as the class labels of tweets. Around 3.5 million labeled tweets are collected as the training data and a Naive Bayes classifier is trained, with an empirical precision of 64.3%. Using MoodLens for real-time tweets obtained from Weibo, several interesting temporal and spatial patterns are observed. Also, sentiment variations are well-captured by MoodLens to effectively detect abnormal events in China. [3]

RESEARCH ARTICLE   OPEN ACCESS

Travel Route Recommendation Using GA Optimization

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Abstract:

With the favour of several websites, the stakeholders can share their photos and check-in records during their trips. In the perception of several users historical mobility records in several websites by finding travel experiences to facilitate trip planning. While planning a trip, the stakeholders always have explicit preferences regarding the trips. Instead of restricting users to limited query options such as locations, activities, or time periods, this paper considers arbitrary text descriptions as keywords about personalized requirements. Even though, a different and representative set of recommended travel routes is needed. To meet the need for automatic trip organization, the system claim that more features of Places of Interest (POIs) should be extracted. Therefore, this paper proposes about keyword based representative travel route recommendation using Depth First Search Algorithm and Genetic Algorithm. Based on the precision value top ten keywords are extracted and possible routes for the locations are identified using Depth First Search Algorithm. Optimal solution for the routes will be generated using Genetic Algorithm. To provide benefiting query results, this paper proposes genetic algorithm with improved performance.

Keywords –– **check-in records, Travel routes, Place of Interests (POI), Optimal solution**.

I. INTRODUCTION

Web mining is the process of using data mining techniques and algorithms to extract information directly from the Web by extracting it from Web documents and services, Web content, hyperlinks and server logs. The goal of Web mining is to look for patterns in Web data by collecting and analyzing information in order to gain insight into trends, the industry and users in general. In this paper, it proposes route optimization technique using Evolutionary algorithm. It is the application of data mining techniques to discover interesting usage patterns from Web data in order to understand and better serve the needs ofWeb-based applications. Usage data captures the identity or origin of Web users along with their browsing behavior at a Web site.

Web usage mining itself can be classified further depending on the kind of usage data considered. Web Server Data in which the user logs are collected by the Web server. Typical data includes IP address, page reference and access time. Application Server Data provides the commercial application servers have significant features to enable e-commerce applications to be built on top of them with little effort. A key feature is the ability to track various kinds of business events and log them in application server logs. Application Level Data provides the new kinds of events can

be defined in an application, and logging can be turned on for them thus generating histories of these specially defined events. It must be noted, however, that many end applications require a combination of one or more of the techniques applied in the categories above.

Depth-first search (**DFS**) is an algorithm for traversing or searching tree or graph data structures. One starts at the root (selecting some arbitrary node as the root in the case of a graph) and explores as far as possible along each branch before backtracking. Using this algorithm, the possible set of candidate routes are generated for the top ranking keywords. For applications of DFS in relation to specific domains, such as searching for solutions in artificial intelligence or web-crawling, the graph to be traversed is often either too large to visit in its entirety or infinite (DFS may suffer from non-termination). In such cases, search is only performed to a limited depth; due to limited resources, such as memory or disk space, one typically does not use data structures to keep track of the set of all previously visited vertices. When search is performed to a limited depth, the time is still linear in terms of the number of expanded vertices and edges (although this number is not the same as the size of the entire graph because some vertices may be searched more than once and others not at all) but the space complexity of this variant of DFS is only proportional to the depth limit, and as a result, is much smaller

Improving Classifier Performance using Genetic Feature Selector for Effective Data Classification

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Abstract

Discovering useful information from large volume of data is called Knowledge discovery process. Data mining is one of the steps in the Knowledge discovery process to find the patterns of interest and relationships among the data. In data mining, Feature Selection (FS) is the area of research with interest. The goal of feature selection is to identify more informative sets of feature in order to enhance the performance of classification algorithms with the reduced data set. As the real-world problems commonly suffer from the curse of dimensionality, feature selection methods are highly important to improve accuracy of a predictive model in data mining. In this work, a genetic feature selection method (GFS) is proposed for selecting the optimal feature subset from the data sets and thereby improving the classification accuracy. The experiments performed with various standard data sets using genetic feature selector reveal that the proposed method is superior in terms of feature subset selection, classification accuracy and running time.

Keywords: *Knowledge discovery, Data mining, classification, feature selection, Genetic algorithm.*

1. Introduction

In recent years, tremendous amount of information is generated and accumulated in every field where computers are used. While the amount of information increases, the ability to understand and make use of it does not cope with its growth. Despite today's advancement in computer technologies like machine learning and data mining systems, discovering knowledge from data can still be hard due to the characteristics of the computer generated data. When classification is performed this accumulated high dimensional feature dataset often imposes a high computational cost and additionally the danger of over fitting. In this way, it is necessary to reduce the dimensionality of the datasets. Selecting the optimal subset from the existing feature subset has proven to be an NP hard problem. Feature Selection is one of the oldest existing methods that deal with these issues. Its aim is to select a minimal set of features based on some evaluation criterion and the selected subset contains the least number of important features by discarding the insignificant features from original set of 'N' features. In general [1], Feature Selection includes four fundamental stages viz subset selection, evaluation, stopping criterion and result validation referred in Figure.1. It also includes three important types of feature selection techniques such as filter, wrapper and embedded. In filter method, the subset selection is performed without involving any mining algorithms. It depends only on general characteristics of the data. Filter method evaluates features by its content, typically like interclass distance, statistical dependence measures to assign a scoring to each feature. According to the score, the features are either selected or removed from the dataset. The selected subsets are useful for different classification algorithms. This method is quite popular mainly because of its computational efficiency even for large datasets. The main disadvantages of this method are less computational effort and quality of selected features.

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Improving medical diagnosis performance using hybrid feature selection via relieff and entropy based genetic search (RF-EGA) approach: application to breast cancer prediction

Ilangovan Sangaiah[1] · A. Vincent Antony Kumar[2]

Abstract
In this research a new hybrid prediction algorithm for breast cancer has been made from a breast cancer data set. Many approaches are available in diagnosing the medical diseases like genetic algorithm, ant colony optimization, particle swarm optimization, cuckoo search algorithm, etc., The proposed algorithm uses a ReliefF attribute reduction with entropy based genetic algorithm for breast cancer detection. The hybrid combination of these techniques is used to handle the dataset with high dimension and uncertainties. The data are obtained from the Wisconsin breast cancer dataset; these data have been categorized based on different properties. The performance of the proposed method is evaluated and the results are compared with other well known feature selection methods. The obtained result shows that the proposed method has a remarkable ability to generate reduced-size subset of salient features while yielding significant classification accuracy for large datasets.

Keywords Feature selection · ReliefF ranking · Entropy based genetic algorithm · Classification · Breast cancer diagnosis

1 Introduction

The increased usage of computers in all aspects of life results in accumulation of large data. This data are large in sizes which are systematic and related data in identifying the necessary pattern so that data mining is an essential area in the data classification and prediction, estimation and other tasks. It has emerged in to a dynamic field in research to solve the theoretical problems which are faced in real time. Big data mining is already applied in many areas where ever data management operations are needed. This data mining and engineering techniques have been successfully applied in various processes like pattern recognition etc., the feature selection plays a major role in almost all the fields. The aim of feature selection is to determine a feature subset as small as possible. It selects the subset of original features, without any loss of useful information by removes irrelevant and redundant features for reducing data dimensionality [1]. It is the essential pre-processing step prior to applying data mining tasks. As a result it improves the mining accuracy, reduces the computation time and enhances result comprehensibility. Filter, wrapper and embedded approach are the three types of approaches in feature selection. Filter approach selects the feature without depending upon the type of classifier used. The advantage of this method is that, it is simple and independent of the type of classifier used so feature selection need to be done only once but this method ignores the interaction with the classifier, the feature dependencies, and each feature is considered separately. The Wrapper approach is dependent upon the classifier used, i.e. it uses the result of the classifier to determine the goodness of the given feature or attribute. The advantage of this method is that it removes the drawback of the filter method and disadvantage of this method is that it is slower than the filter method because it takes the dependencies also. The next embedded approach is the combination between a filter algorithm and a wrapper approach searches for an optimal subset of features that is built into the classifier construction. Less computationally expensive and less prone to over fitting than a wrapper approach are the advantage of this method. In the last two decades, a variety of such hybrid models have been proposed on pattern recognition and artificial intelligence techniques including

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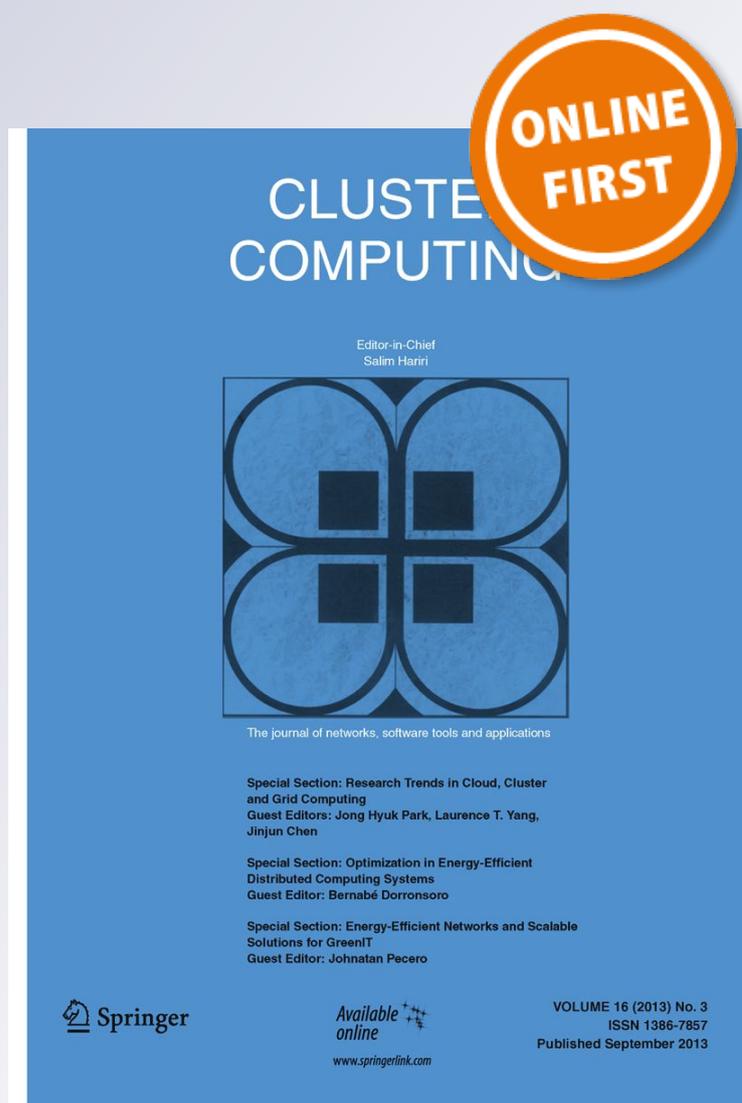
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A Software-Based Heuristic Clustered (SBHC) Architecture for the Performance Improvement in MANET

S. Ramesh[1] · S. Smys[2]

Abstract Network connectivity is the critical issue in the internet of things. Due to the node mobility and randomly deployed nodes, the performance of the mobile ad hoc network may reduce the performance improvement. By using the proposed software-based heuristic clustered (SBHC) technique, can increase the performance of the mobile ad hoc network. This proposed SBHC technique can involve in three different stages such as clustering formation, software-based clustering, and heuristic clustered routing protocol. In clustering formation, cluster head will be selected based on the weighted clustering algorithm. Software-based clustering assigns the task scheduling and avoid the node failure. Heuristic clustering routing protocol is used to create the routing path between the cluster head, gateway and cluster members. This proposed SBHC technique, increases the network performance by using the quality of service parameters that was shown in the simulation results.

Keywords Mobile ad hoc network · Software-based · Clustering · Heuristic approach · Routing protocol
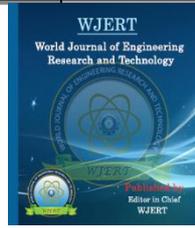
1 Introduction

In mobile ad hoc network, mobile nodes are connected randomly and that will act as either receiver or router. To avoid the traffic in the distributed mobile ad hoc network requires Clustering approach. Clustered technology will reduce the traffic in mobile ad hoc network

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SECURE ROUTING OF MANET USING MDSR WITH SNUPM ALGORITHM

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ABSTRACT

Security is a decisive request in Mobile Ad-Hoc Network (MANETs) when evaluated to wired Network. MANETs are more suspicious to security attacks due to the need of a reliable centralized cloud and scanty resources. In MANET, We have malicious nodes that overcome the network protocols thereby diminishing the network's performance. The development of portable networks has implicated the need of new IDS models in order to deal with new security issues in these communication environments. In this paper, we proposed a Secured Network using Promiscuous Mode (SNuPM) which is a piece of Intrusion Detection System where it can repair the malicious nodes and change over back them into a normal node for effectual network performance.

KEYWORDS: MANET, IDS, AODV, Malicious node, Promiscuous mode, MDSR.

INTRODUCTION

The statute limit of a network to exchange data among the user that are appended to the network Wireless communication is practically utilized as a part of homes to keep away from the way toward presenting links is shown in Fig 1.

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Avoidance of Black Hole Attack using Revised AODV protocol and Trust Mechanism

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Abstract:

Mobile Ad-hoc Network(MANET) is a consistently self-configuring, infrastructure-less network of mobile devices connected wirelessly. Since the nodes communicate with each other, they co-operate by forwarding data packets to other nodes in the network. Ad-hoc On-demand Distance Vector (AODV) is one of the most appropriate routing protocol for the MANETs and it is more susceptible to black hole attack by the detrimental nodes. Black hole attack is the one in which, malicious node incorrectly sends the RREP (route reply) that it has the shortest route to destination and then it drops all the receiving packets. The aim of the project is to avoid Black hole attack using Trust mechanism. Trust is the degree of reliability about other node for performing certain action by keeping track of all past transaction or interactions with nodes by direct or indirect observation. However, the communication will only be secure if the initial assumption of trust is true. Therefore, it is made clear that in order to ensure security it is necessary that the packets are forwarded only through the trusted nodes.

Keywords —**Mobile Ad-hoc Network, Routing Protocol, Black Hole Attack, Trust.**

I. INTRODUCTION

Network is the spine for telecommunication, Wi-Fi networks like cellular network. As aftermath of the remarkable exploit of hand held gadgets, Mobile Ad-Hoc Network (MANET)is a thriving technology in today's scenario. A MANET is a multi-hop temporary proclamation network of cell nodes that operates with Wi-Fi transmitters and receivers without the assistance of any pre-existing network infrastructure. The nodes are equipped to manoeuvre freely. Every nodes are self-configuring in nature, this gives the node a free will to either stay or leave the network at any instance. Every node can participate in the venture of transferring the packets. The nodes keep up a correspondence through sending packets to distinct nodes within its radio range. Routing meet specified standards with a chief function in the safety of the entire network. Thus, these operations bring several security issues in MANET. The wireless link characteristics are time-varying in nature: There are transmission impediments like fading, path loss, blockage and interference that adds to the prone behaviour of wireless channels. The responsibility of wireless transmission is resisted by various factors. Packet losses attributable to errors in transmission – MANETs expertise higher packet loss attributable to factors like hidden terminals that ends up in