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Enhancing Network Security and Performance Using Optimized ACLS

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ABSTRACT

Access Control list plays a very important role in network security. Proper combination of rules for ACLs can close loop holes in the system, thus minimizing security breaches. An ACL can improve network performance up to a good level by limiting the traffic controls the areas that can be accessible to any device or user. However, if ACL is not managed properly and efficiently it causes packet latency and degrades the network performance. In this paper we present various optimization mechanisms to achieve optimal ACL which reduces the Packet latency. We also proposed an efficient optimization algorithm to optimize the ACL to enhance network performance. We also discuss the importance of ACL and the various rule anomalies.

Keywords

Network, Security, ACL, Anomalies, Network Access Control, Optimization, Router, latency, Rule.

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Comparative Study of Different Algorithms to Solve N Queens Problem

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ABSTRACT

This Paper provides a brief description of the Genetic Algorithm (GA), the Simulated Annealing (SA) Algorithm, the Backtracking (BT) Algorithm and the Brute Force (BF) Search Algorithm and attempts to explain the way as how the Proposed Genetic Algorithm (GA), the Proposed Simulated Annealing (SA) Algorithm using GA, the Backtracking (BT) Algorithm and the Brute Force (BF) Search Algorithm can be employed in finding the best solution of N Queens Problem and also, makes a comparison between these four algorithms. It is entirely a review based work. The four algorithms were written as well as implemented. From the Results, it was found that, the Proposed Genetic Algorithm (GA) performed better than the Proposed Simulated Annealing (SA) Algorithm using GA, the Backtracking (BT) Algorithm and the Brute Force (BF) Search Algorithm and it also provided better fitness value (solution) than the Proposed Simulated Annealing Algorithm (SA) using GA, the Backtracking (BT) Algorithm and the Brute Force (BF) Search Algorithm, for different N values. Also, it was noticed that, the Proposed GA took more time to provide result than the Proposed SA using GA.

KEYWORDS

Tractable and Intractable Problems, N Queens Problem, Genetic Algorithm, Simulated Annealing Algorithm, Backtracking Algorithm, Brute Force Search Algorithm, Fitness, No. of Solutions, Time.

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Current Perspective in Task Scheduling Techniques in Cloud Computing: A Review

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ABSTRACT

Cloud computing is a development of parallel, distributed and grid computing which provides computing potential as a service to clients rather than a product. Clients can access software resources, valuable information and hardware devices as a subscribed and monitored service over a network through cloud computing. Due to large number of requests for access to resources and service level agreements between cloud service providers and clients, few burning issues in cloud environment like QoS, Power, Privacy and Security, VM Migration, Resource Allocation and Scheduling need attention of research community. Resource allocation among multiple clients has to be ensured as per service level agreements. Several techniques have been invented and tested by research community for generation of optimal schedules in cloud computing. A few promising approaches like Metaheuristics, Greedy, Heuristic technique and Genetic are applied for task scheduling in several parallel and distributed systems. This paper presents a review on scheduling proposals in cloud environment.

KEYWORDS

Metaheuristics, Heuristics, Greedy, Genetic Algorithms, Review, Task Scheduling. Full

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TrackingNumberPlateFromVehicleUsingMATLAB

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ABSTRACT

In Traffic surveillance, Tracking of the number plate from the vehicle is an important task, which demands intelligent solution. In this document, extraction and Recognition of number plate from vehicles image has been done using Matlab. It is assumed that images of the vehicle have been captured from Digital Camera. Alphanumeric Characters on plate has been Extracted and recognized using template images of alphanumeric characters. This paper presents a new algorithm in MATLAB which has been used to extract the number plate from the vehicle in various luminance conditions. Extracted image of the number plate can be seen in a text file for verification purpose. Number plate identification is helpful in finding stolen cars, car parking management system and identification of vehicle in traffic.

KEYWORDS

NumberplateExtraction,MATLAB,Recognition,DigitalCamera,luminancecondition Full

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Analysis of Software Cost Estimation Using Fuzzy Logic

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ABSTRACT

The growing application of software and resource constraints in software projects development need a more accurate estimate of the cost and effort because of the importance in program planning, coordinated scheduling and resource management including the number of programming's and software design using tools and modern methods of modeling. Effectively control of investment for software development is achieved by accurate cost estimation. The accurate Software Cost Estimation (SCE) is very difficult in the early stages of software development because many of input parameters that are effective in software's effort are very vague and uncertain in the early stages. SCE that is the basis of software projects development planning is considered to be of high accuracy, because if the estimate is less than actual values, confidence factor is reduced and this is means the possibility of failure in project. Conversely, if the project is estimated at more than the actual value it would be the concept of unhelpful investment and waste of resources. In the evaluation of software projects is commonly used deterministic method. But software world is totally different from the linear variables and nowadays for performance and estimation should be used nonlinear and non-probabilistic methods. In this paper, we have studied the SCE Using Fuzzy Logic (FL) and we have compared it with COCOMO model. Results of investigations show that FL is a performance model for SCE.

KEYWORDS

Software Cost Estimation, COCOMO, Fuzzy Logic

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Distribution of Maximal Clique Size Under the Watts-Strogatz Model of Evolution of Complex Networks

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ABSTRACT

In this paper, we analyze the evolution of a small-world network and its subsequent transformation to a random network using the idea of link rewiring under the well-known Watts-Strogatz model for complex networks. Every link $u-v$ in the regular network is considered for rewiring with a certain probability and if chosen for rewiring, the link $u-v$ is removed from the network and the node u is connected to a randomly chosen node w (other than nodes u and v). Our objective in this paper is to analyze the distribution of the maximal clique size per node by varying the probability of link rewiring and the degree per node (number of links incident on a node) in the initial regular network. For a given probability of rewiring and initial number of links per node, we observe the distribution of the maximal clique per node to follow a Poisson distribution. We also observe the maximal clique size per node in the small world network to be very close to that of the average value and close to that of the maximal clique size in a regular network. There is no appreciable decrease in the maximal clique size per node when the network transforms from a regular network to a small-world network. On the other hand, when the network transforms from a small-world network to a random network, the average maximal clique size value decreases significantly.

KEYWORDS

Maximal Clique Size, Small-World Networks, Complex Networks, Random Networks, Link Rewiring, Poisson Distribution, Network Evolution, Watts-Strogatz Model.

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A Comparative Analysis on Software Architecture Styles

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ABSTRACT

Software architecture is the structural solution that achieves the overall technical and operational requirements for software developments. Software engineers applied software architectures for their software system developments; however, they worry the basic benchmarks in order to select software architecture styles, possible components, integration methods (connectors) and the exact application of each style. The objective of this research work was a comparative analysis of software architecture styles by its weakness and benefits in order to select by the programmer during their design time. Finally, in this study, the researcher has been identified architectural styles, weakness, and Strength and application areas with its component, connector and Interface for the selected architectural styles.

KEYWORDS

Architecture Styles, Components, Connectors, Interface

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Real-Time Eventual Consistency

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ABSTRACT

Many real-time systems are naturally distributed and these distributed systems require not only high availability but also timely execution of transactions. Consequently, eventual consistency, a weaker type of strong consistency is an attractive choice for a consistency level. Unfortunately, standard eventual consistency, does not contain any real-time considerations. In this paper we have extended eventual consistency with real-time constraints and this we call real-time eventual consistency. Followed by this new definition we have proposed a method that follows this new definition. We present a new algorithm using revision diagrams and fork-join data in a real-time distributed environment and we show that the proposed method solves the problem.

KEYWORDS

Real-time databases, eventual consistency, transaction processing

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DNA Data Compression Algorithms Based on Redundancy

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ABSTRACT

Carl Jung said, 'Collective unconscious' i.e. we are all connected to each other in some way or the other via our DNA. Infrequent cases there are four bases in a DNA. They are a (Adenine), c (Cytosine), g (Guanine) and t (Thymine). Each of these bases can be represented by two bits as 2 powers $2^2 = 4$ i.e. a – 00, c – 01, g – 11 and t – 10 respectively, although this choice is random. So redundancy within a sequence is more likely to exist. That's why in this paper we have explored different types of repeat to compress DNA. These are direct repeats, palindrome or reverse direct repeat, inverted exact repeats or complementary palindrome or exact reverse complement, inverted approximate repeats or approximate complementary palindrome or approximate reverse complement, interspersed or dispersed repeats, flanking repeats or terminal repeats etc. Better compression gives better network speed and save storage space.

KEYWORDS

Direct repeats, Inverted repeats, Complementary palindrome, Interspersed repeats and Flanking repeats.

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A Face Recognition Using Linear-Diagonal Binary Graph Pattern Feature Extraction Method

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ABSTRACT

Face recognition is one of the most interesting topics in the field of computer vision and image processing. Face recognition is a processing system that recognizes and identifies individuals human by their faces. Automatic face recognition is a powerful way to provide authorized access to control their system. Face recognition has many challenging problems (like face pose, face expression variation, illumination variation, face orientation and noise) in the field of image analysis and computer vision. This method is a work on feature extraction part of face recognition. New way to extract face feature using LD-BGP code operator, it is like LGS and LBP feature extraction operator. In our LD-BGP-code operator, we work in two directions: first linear then diagonal. In both directions, we create eight digits code for every pixel of image. Means of these two directions are taken so that it covers all neighbors of the center pixel. First linear direction, only horizontal and vertical pixels are taken. Second diagonal direction, only diagonal pixels are taken. In the matching phase, we use Euclidean distance to match a face image. We perform the Linear and diagonal directional operator method on the face database ORL. We get an accuracy of 95.3 %. LD-BGP method also works on different types of images like illumination and expression variation images.

KEYWORDS

face recognition, text based local descriptor, biometric, pattern recognition and LD-BGP Full

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