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Role Based Access Control for the Content Stored In Clouds

DIVYA LAKSHMI.T

Cloud data storage has provided significant benefits by allowing users to store massive amount of data on demand in a cost-effective manner. To protect the privacy of data stored in the cloud, cryptographic role-based access control (RBAC) schemes have been developed to ensure that the data can only be accessed by those who are allowed by access policies. However, these cryptographic approaches do not address the issues of trust. In this paper, we propose trust models to reason about and to improve the security for stored data in cloud storage systems that use cryptographic RBAC schemes. The trust models provide an approach for the owners and roles to determine the trustworthiness of individual roles and users, respectively, in the RBAC system. The proposed trust models consider role inheritance and hierarchy in the evaluation of trustworthiness of roles. We present a design of a trust-based cloud storage system, which shows how the trust models can be integrated into a system that uses cryptographic RBAC schemes. We have also considered practical application scenarios and illustrated how the trust evaluations can be used to reduce the risks and to enhance the quality of decision making by data owners and roles of cloud storage service.

Human Action Recognition By Using Image Neural Network

SHAHEEN K
ARCHANA JOTHI
A BHAGYASHRI

In this project, a human action recognition method using a hybrid neural network is presented. The method consists of three stages: preprocessing, feature extraction, and pattern classification. For feature extraction, we propose a modified convolutional neural network (CNN) which has a three-dimensional receptive field. The CNN generates a set of feature maps from the action descriptors which are derived from a spatiotemporal volume. A weighted fuzzy min-max (WFMM) neural network is used for the pattern classification stage. We introduce a feature selection technique using the WFMM model to reduce the dimensionality of the feature space. Two kinds of relevance factors between features and pattern classes are defined to analyze the salient features.

Trend In Wireless Body Area Network From On Body To Body-To-Body Cooperation

DEVI.M

JESSY SNEHA.M

In this project we investigate the effects of vehicular traffic on body-to-body (B2B) communications channels in an urban environment at 2.45 GHz. In particular, the impact of differing vehicle types passing in the vicinity of a B2B link are investigated for different body orientations relative to one another at the side of a busy urban street. Initial findings suggest that the average disturbance in a B2B channel can last for 2 seconds and depending on the vehicle size, fades in excess of 40 dB can occur. The body orientations are shown to be a significant factor on the effects of vehicular traffic on the B2B channel.

Operational Cost Minimization In Geo Distributed Data Centers For Big-Data Processing

K B PRASHANTH

G MOHAN

M MOHANKUMAR

The explosive growth of demands on big data processing imposes a heavy burden on computation, storage, and communication in data centers, which hence incurs considerable operational expenditure to data center providers. Therefore, cost minimization has become an emergent issue for the upcoming big data era. Different from conventional cloud services, one of the main features of big data services is the tight coupling between data and computation as computation tasks can be conducted only when the corresponding data are available. As a result, three factors, i.e., task assignment, data placement, and data movement, deeply influence the operational expenditure of data centers. In this project, we are motivated to study the cost minimization problem via a joint optimization of these three factors for big data services in geo-distributed data centers. To describe the task completion time with the consideration of both data transmission and computation, we propose a 2-D Markov chain and derive the average task completion time in closed-form. Furthermore, we model the problem as a mixed-integer nonlinear programming and propose an efficient solution to linearize it. The high efficiency of our proposal is validated by extensive simulation-based studies.

Image Segmentation And Classification For Hyperspectral Remote Sensing Image Using Neural Network Approch

B.ASHWIN

K.GANESH

Y.BHARGAVA KRISHNA REDDY

Hyperspectral imaging, which records a detailed spectrum of light for each pixel, provides an invaluable source of information regarding the physical nature of the different materials, leading to the potential of a more accurate classification. However, high dimensionality of hyperspectral data, usually coupled with limited reference data available, limits the performances of supervised classification techniques. The commonly used pixel-wise classification lacks information about spatial structures of the image. In order to increase classification performances, integration of spatial information into the classification process is needed. In this paper, we propose to extend the watershed segmentation algorithm for hyperspectral images, in order to define information about spatial structures. In particular, several approaches to compute a one-band gradient function from hyperspectral images are proposed and investigated. The accuracy of the watershed algorithms is demonstrated by the further incorporation of the segmentation maps into a classifier. A new spectral-spatial classification scheme for hyperspectral images is proposed, based on the pixel-wise Support Vector Machines classification, followed by majority voting within the watershed regions.