



Special issue on prototypes on computer and communication networks

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Computer and Communications networks explore many aspects of the internet, such as data acquisition, data mining, data transmission, and data communication in wireless or wired circumstances. It focuses on improving existing networks, developing new high-performance protocols, prototype systems, and emulators, and designing network architectures. Computer and communication networks have become more and more important in our daily life as they are widely used in many critical services, which has transformed robust network for data transfer into a global, content-rich, communication and information system where contents are increasingly generated by the users and distributed according to human social relations. This special issue has presented an opportunity to gather relevant research results related to prototypes on computer and communication networks. These articles have been selected after a rigorous, double-blind, peer review.

The traditional Hadoop-based anomaly data recognition algorithm for big data networks does not suppress the disturbance components of the data attributes of anomalous nodes. Therefore, paper [1] proposed a new algorithm for locating and identifying fuzzy anomaly data in the big data network, which has higher accuracy.

Paper [2] proposed a fuzzy adaptive prediction algorithm based on fuzzy C-means clustering and correlation spectrum feature extraction for data transmission congestion in multimedia networks, which makes the prediction more accurate and anti-interference performance stronger. This model ensures the stability and security of the multimedia network.

The method for optimal allocation of network resources based on discrete probability model is proposed in paper [3]. The model is introduced into the solution of the node

coverage area, and the optimized parameters of the sensor optimization arrangement are used to optimize the layout of the multimedia sensor nodes, which has good convergence and can complete the node coverage process in a short time, thus greatly improve the energy-saving effect and enhance the network resource optimization.

To improve the transmission stability of sensor networks, a sensitive data mining method based on Pan Boolean algebra is proposed in the paper [4]. This method has high precision in mining sensitive data of WSN and improves the reliability of WSN.

In paper [5], an algorithm for predicting the running data of information systems based on discrete second-order difference clustering is proposed. This method is of high accuracy, good convergence, and high real-time performance, which can improve the scheduling ability of information system operation data.

The traditional laboratory LAN technology has the problem that the transmission efficiency is lower than the error rate. In paper [6], a data acquisition and transmission method based on fuzzy DEMATEL algorithm for laboratory LAN is proposed. The method can accurately predict and evaluate laboratory LAN data, with high data transmission accuracy, can accurately calibrate the characteristics of laboratory LAN transmission information, which is widely used in laboratory LAN transmission control.

To solve the problem of high energy consumption caused by node overload in complex network flow, a simulation load separation control algorithm based on complex network flow is proposed in the paper [7]. It is shown that the designed discrete control algorithm has the advantages of low cost, good load balancing, low energy consumption, and good simulation load discrete control performance.

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