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EDITORIAL

Editorial to special issue: computer and network applications for ubiquitous computing

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We are very happy to publish this special issue of the computing published by Springer.

This issue contains nine articles come from various countries, among which we mention Spain, Australia, South Korea, Kingdom of Saudi Arabia, India, United Kingdom, China, Japan, and Iran. Achieving such a high quality of papers would have been impossible without the huge work that was undertaken by the editorial board members and external reviewers. We take this opportunity to thank them for their great support and cooperation.

In "E-D2HCP: enhanced distributed dynamic host configuration protocol", authors proposed a stateful scheme for dynamic allocation of IP addresses in MANETs entitled extended distributed dynamic host configuration protocol because it is based on a previous piece of work (D2CHP). This work proposed a stateful auto-configuration protocol that guarantees the uniqueness of IP addresses under a wide variety of network conditions such as missing messages and merging and partitioning of networks.

Authors showed that Chen et al.'s scheme has some drawbacks and the improvement proposed by Truong et al. is still insecure and vulnerable in "More efficient key-hash based fingerprint remote authentication scheme using mobile device". Authors proposed an improved scheme which overcomes the flaws and inherits the goodness of both the schemes, Chen et al.'s scheme and Truong et al.'s scheme.

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In the paper "Adaptive routing protocol for mobile ad hoc networks", authors presented novel techniques for the routing optimization from the perspective of the artificial immunology theory. Authors discussed the bio-inspired protocol AntOR and analyze its new enhancements. In the simulation results authors compared it with the reactive protocol AODV observing how their proposal improved it according to Jitter, the delivered data packet ratio, throughput and overhead in number of packets metrics.

The paper "Source identification for mobile devices, based on wavelet transforms combined with sensor imperfections", studied recent developments in the field and proposed the mixture of two techniques (sensor imperfections and wavelet transforms) to get better source identification of images generated with mobile devices. Authors' results showed that sensor imperfections and wavelet transforms can jointly serve as good forensic features to help trace the source camera of images produced by mobile phones.

In the paper "Identity-based deniable authentication for ad hoc networks", authors proposed a non-interactive IBDA protocol using bilinear pairings. Authors' protocol admitted formal security proof in the random oracle model under the bilinear Diffie–Hellman assumption, and faster than all known IBDA protocols of its type. In addition, authors' protocol supported batch verification that can speed up the verification of authenticators.

In the paper "Detecting bad information in mobile wireless networks based on the wireless application protocol", a bad WAP information detection system was proposed, which contains crawling, judgment and location subsystems to identify bad WAP websites. The experiment results verified that authors' bad WAP information detection system has high efficiency and accuracy.

The paper "Reusing training data with generative/discriminative hybrid model for practical acceleration-based activity recognition" proposed a new daily activity recognition method that can learn an activity classification model with small quantities of training data by sharing training data among different activity classes. Authors assumed that a user wears accelerometers on several parts of the body such as the hands, waist, and thigh, and we attempt to share sensor data obtained from only selected accelerometers among two different activity classes based on a sensor data similarity measure.

The paper "Using MCRDR based agile approach for expert system development" described requirements of the approach based on agile software development and the business rules approach. As a result, authors confirmed and specified why the multiple classification ripple down rules is the novel approach for the expert system development.

The proposed method in the paper "Grid resource discovery based on distributed learning automata" utilized a distributed learning automata (DLA) which is a network of learning automata (LA). Different grid scales were utilized for evaluation of the proposed method. Results demonstrated that the resource discovery based on DLA optimized resource utilization, maximized throughput, minimized response time and avoided overload.

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