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GUEST EDITORIAL

Guest Editorial: Special issue on Cognitive computing for web applications

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Cognitive Computing breaks the boundary between two separate fields, neuroscience and computer science. It paves the way for machines to have reasoning abilities which is analogous to human. The research field of cognitive computing is interdisciplinary, and uses knowledge and methods from many areas such as psychology, biology, signal processing, physics, information theory, mathematics, and statistics. The development of cognitive computing will keep cross-fertilizing these research areas. However, in web applications there still remain many open problems for cognitive computing. Technologies like cloud computing and big data are essential to upgrade the web systems with near human intelligence by using new capabilities such as machine learning, cognitive sensing, data mining, pattern recognition and natural language processing.

The objective of this special section is to provide a platform for researchers to share their thoughts and findings on various issues involved in artificial intelligence and networks. Authors of papers presented at the EAI International Conference on Robotic Sensor Networks (ROSENET—http://rosenets.org/) were invited to submit their substantially expanded papers. ROSENET conference had received over 30 papers from over 5 countries in the world. After a careful review process the 6 papers presented in this special section were selected based on their originality, significance, technical soundness and clarity of exposition.

The first paper [1] proposes a Cognitive ocean of things (COT) that will become the mainstream of future ocean science and engineering development.

The second paper [2] proposes Double-Blinded Finder, an efficient and double-blinded system for finding missing children via low-dimensional multi-attribute representation of child face and blind face matching.

The third paper [3] designs the BlackEye framework in which we can apply various ML techniques and produce models for accurate blacklisting.

The fourth paper [4] proposes an improved intelligent clustering algorithm and applies it to the complex water system environment.

The fifth paper [5] proposes a novel handover scheme, which integrates both advantages of fuzzy logic and multiple attributes decision algorithms (MADM) to ensure handover process be triggered at the right time and connection be switched to the optimal neighbouring BS.

The last paper [6] proposes a heuristic search algorithm that determines and resolves the Hamiltonian circuit problem in directed graphs.

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