EDITORIAL

Dear reader,

In front of you is the issue no. 4/2013 of the journal AUTOMATIKA. It contains eight invited papers covering some recent advances in Knowledge Acquisition and Management in the Internet of Things (IoT) and two papers from the journal's regular submission process. IoT is regarded as an ideal communicating platform for people and kinds of smart objects. Automatic information extracting from massive and heterogeneous data and knowledge acquiring and managing are primary issues for future IoT. This special issue aims to investigating the advances in this area, in collaboration with two workshops: International Workshop on Knowledge Acquisition and Management in the Internet of Things (KAMIoT 2012) held in Liverpool, UK on Jun 25-27, 2012 and International Workshop on Identification, Information and Knowledge on the Internet of Things held in Wuxi, China on Oct 24-26, 2012.

In the first paper, ***Knowledge Representation in the Internet of Things: Semantic Modelling and its Applications****, Wei Wang et al. present a design of a semantic description model for knowledge representation in IoT which can be extended by linking to external ontologies, knowledge bases or existing linked data. The second paper,* ***Capture knowledge on the spot: toward the autonomous and pervasive service of context-rich knowledge****, Keedong Yoo proposes a methodology to capture knowledge on the spot in an autonomous and pervasive manner by deploying the Smartphone as a sensor to monitor and gather dialogue-based knowledge and context data. In the third paper* ***Information Service System of Agriculture IoT****, Li Minbo et al. propose an information system of agriculture Internet of Things based on distributed architecture, which involves in IoT-Information Service, Object Naming Service, Discover Service to provide public information service for agriculture production. The fourth paper is* ***Recommender Searching Mechanism for Trust-Aware Recommender Systems in Internet of Things*** *in which Weiwei Yuan et al. propose an efficient searching mechanism, named S_Searching: based on the scale-freeness of trust networks, choosing the global highest-degree nodes to construct a Skeleton, and searching the recommenders. In the fifth paper,* ***A Cooperative Evolution for Qos-driven IoT Service Composition****, Jin Liu et al. present a cooperative evolution for service composition with the global restriction of quality of service. Several effective strategies are presented for this problem. In the sixth paper,* ***Ensuring Interoperability for the Internet of Things: Experience with CoAP Protocol Testing****, Nanxing Chen, et al. describe the testing method and procedure for the first formal CoAP interoperability testing event– the CoAP Plugtest. A set of test objectives concerning important properties of CoAP are used to measure the interoperability. The seventh paper* ***Building the Data Association Network of Sensors in the Internet of Things*** *authored by Xiao Wei et al. propose a method to mine the data association relation between sensors from sensor data with the support of Data Association Network of sensors which can organize the association semantic between sensors into an effective form. In the eight paper,* ***An Efficient Parallel Computing Method for the Processing of Large Sensed Data****, Dandan Li et al. provide an effective parallel method for partial differential equations which are useful to analyze the massive data for decisions making in the Internet of Things. The paper* ***Genetic Re-planning Strategy of Wormhole Model using Neural Learned Vibration Behavior in Robotic Assembly****, by Lejla Banjanović-Mehmedović et al., investigates the genetic based re-planning search strategy using neural learned vibration behavior for achieving tolerance compensation of uncertainties in robotic assembly. The authors propose the Wormhole*

Model with both learning and re-planning capacities as a novel modelling formalism of reactive hybrid automata. In the last paper, ***Analysis of Sojourn Times in QBD Model of a Thread Pool****, Mirko Randić et al. formulate queuing model of a thread pool, where the requests are abstracted in such a way that they are characterized by service time distribution and CPU consumption parameter. The model is defined as a Quasi-Birth-and-Death process and stability conditions for the model are derived and an analytic method based on generating functions for calculation of expected sojourn times is presented.*

We would like to take this opportunity to thank all authors for their contributions. We thank all reviewers for their time, effort and expertise for reviewing the papers. Finally, we would like to express our gratitude to Prof. Ivan Petrović, the Editor-in-Chief of AUTOMATIKA, for giving us the opportunity and honour to serve as the guest editors of this issue.

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