Preface

It is my pleasure to present the XVIII volume of LNCS *Transactions on Computational Collective Intelligence*. This volume includes nine interesting and original papers that have been selected via the peer-review process.

The first paper, "Using Semantic Web for Generating Questions: Do Different Populations Perceive Questions Differently?" by Thinh Le Nguyen, is devoted to the problem of organizing effective learning processes in intelligent e-learning systems. The author proposes an approach to using Semantic Web data for generating questions that are intended to help people develop arguments in a discussion session.

The second paper entitled "Reflection of Intelligent e-Learning/Tutoring — The Flexible Learning Model in LMS Blackboard" by Ivana Simonova, Petra Poulova, and Pavel Kriz describes the theoretical background and practical concept of teaching/ learning through online courses as an example of a smart solution of e-learning system. The authors consider personalization based on individual learning preferences, including students' reflection on the individualized online instruction.

In the third paper, "GLIO: A New Method for Grouping Like-Minded Users," Soufiene Jaffali et al. present a novel unsupervised method for grouping like-minded users within social networks. The idea of their method is based on detecting groups of users sharing the same interest centers and having similar opinions. Owing to this it can extract the interest centers and retrieve the polarities from the user's textual posts.

The fourth paper, "A Preferences-Based Approach for Better Comprehension of User Information Needs," by Sondess Missaoui and Rim Faiz desribes a model that can identify which contextual dimensions have a strong influence on the outcome of the retrieval process and should therefore be in the user's focus. In order to achieve these objectives, the authors create a new query language model based on the user's preferences. Next they extend this model in order to define a relevance measure for each contextual dimension for automatically classifying each dimension.

The fifth paper entitled "Performance Evaluation of the Customer Relationship Management Agent's in a Cognitive Integrated Management Support System" by Marcin Hernes concerns essential issues related to the sentiment analysis of customers' opinions performed by customer relationship management agents running in a multi-agent cognitive integrated management information system. This system uses computational collective intelligence methods and allows for supporting the management processes related with all the domains of the enterprise's functioning.

In the sixth paper, "Agreements Technologies — Towards Sophisticated Software Agents in Multi-Agent Environments," Mirjana Ivanović and Zoran Budimac present an approach for using agreement technologies in implementation of sophisticated autonomous software agents that mutually negotiate in order to achieve win–win situations. The authors describe the key concepts in this area and highlight the influence of agreement technologies on the development of more sophisticated multiagent systems.

An overview of several interesting systems and environments from different domains is presented.

The next paper, "Identification of Underestimated and Overestimated Web Pages Using PageRank and Web Usage Mining Methods," by Jozef Kapusta, Michal Munk, and Martin Drlík describes a new method of website analysis and optimization that combines methods of web usage and web structure mining — discovering web users' behavior patterns. It can identify the web pages in which the value of their importance, estimated by the website developers, does not correspond to the real behavior of the website visitors.

In the eighth paper, entitled "Massive Classification with Support Vector Machines," Thanh Nghi Do and Hoai An Le Thi propose an extension of the PSVM, LS-SVM, and NSVM algorithms in several ways to efficiently classify large datasets. They have developed a row-incremental version algorithm for datasets with billions of data points. They also worked out new algorithms to process datasets with a small number of data points but very high dimensionality.

In the last paper, "On a Multi-Agent Distributed Asynchronous Intelligence-Sharing and Learning Framework," Shashi Shekhar Jha and Shivashankar B. Nair develop a framework for realizing distributed and asynchronous sharing of intelligence and consequent learning among the entities of a networked distributed system.

I would like to sincerely thank the authors for their valuable contributions.

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