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IFIP is the global non-profit federation of societies of ICT professionals that aims at achieving a worldwide professional and socially responsible development and application of information and communication technologies.

IFIP is a non-profit-making organization, run almost solely by 2500 volunteers. It operates through a number of technical committees and working groups, which organize events and publications. IFIP's events range from large international open conferences to working conferences and local seminars.

The flagship event is the IFIP World Computer Congress, at which both invited and contributed papers are presented. Contributed papers are rigorously refereed and the rejection rate is high.

As with the Congress, participation in the open conferences is open to all and papers may be invited or submitted. Again, submitted papers are stringently refereed.

The working conferences are structured differently. They are usually run by a working group and attendance is generally smaller and occasionally by invitation only. Their purpose is to create an atmosphere conducive to innovation and development. Refereeing is also rigorous and papers are subjected to extensive group discussion.

Publications arising from IFIP events vary. The papers presented at the IFIP World Computer Congress and at open conferences are published as conference proceedings, while the results of the working conferences are often published as collections of selected and edited papers.

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Eunika Mercier-Laurent · Mieczysław Lech Owoc
Danielle Boulanger (Eds.)

Artificial Intelligence for Knowledge Management

Second IFIP WG 12.6 International Workshop, AI4KM 2014
Warsaw, Poland, September 7–10, 2014
Revised Selected Papers

 Springer

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Preface

Knowledge is still one of intangible capitals that influence the performance of organizations and their capacity to innovate. From the very beginning the Knowledge Management (KM) movement initiated in the last century has proposed various approaches focused on supporting enterprises including nonprofit organizations. Traditionally, knowledge gathering, knowledge modeling, and knowledge applications (i.e., knowledge processing) are the main topics essential in KM endeavors. It seems reasonable to join this stream with methods and solutions offered by both symbolic and computational intelligence; we often need to combine both for the best results.

After the first AI4KM (Artificial Intelligence for Knowledge Management) organized by IFIP (International Federation for Information Processing) group TC12.6 (Knowledge Management) in partnership with ECAI (European Conference on Artificial Intelligence) 2012, the second workshop was held during the Federated Conferences on Computer Science and Information Systems (Fedcsis) 2014 in conjunction with the Knowledge Acquisition and Management Conference (KAM).

The main objective of this conjunction was to gather both researchers and practitioners to discuss methodological, technical, and organizational aspects of AI used for knowledge management and to share the feedback on KM applications using AI, especially for business. The main stream of this event was particularly devoted to selected aspects of collaborative human-machine intelligence.

We would like to thank the members of the Program Committee, who reviewed the papers and helped put together an interesting program in Warsaw. We would also like to thank the invited speaker and authors. Finally, our thanks go to the local Organizing Committee and all the supporting institutions and organizations.

This volume offers a selection of improved papers presented during the workshop and includes one invited paper. After the presentation, the authors were asked to extend their proposals by highlighting their original thoughts. The selection focused on new contributions to the KM field and innovative aspects. An extended Program Committee then evaluated the final versions of the proposals, leading to these proceedings.

The proceedings begin with the invited paper:

“A Sign-Based Management Methodology for Co-designing Educational E-services in Living Labs,” by Noël Conruyt, Véronique Sébastien, Olivier Sébastien, Didier Sébastien, and David Grosser.

The rest of the papers are organized according to the four tracks at the workshop:

- **Tools and Methods for Knowledge Acquisition**

The first paper, “Role of Data Warehouse as a Source of Knowledge Acquisition in Decision-Making. An Empirical Study,” responds to the scarcity of empirical studies examining the data warehousing success within an integrative model.

The next contribution “Knowledge Extraction from Professional E-mails” deals with volatile knowledge when professional actors interact together and tackle problems in order to realize projects.

- Models and Functioning of Knowledge Management:

“Challenges for Knowledge Management in the Context of IT Global Sourcing Models Implementation” covers the determination and management of the most important risks related to information sharing in IT sourcing with particular attention to various cloud computing services on offer.

The article “How Should Digital Humanities Pioneers Manage Their Data Privacy Challenges” focuses on the concept of “privacy by design” to address the right of data protection and to guarantee the movements of personal data exchanged between business stakeholders and member states.

The innovative part of the research presented in “Usability of Knowledge Portals for Exclusives in Local Governments” is devoted to the concept of knowledge portals covering architectures and examples of supported tasks.

The next paper, “Knowledge Management in Distributed Agile Software Development Projects: Techniques, Strategies and Challenges,” investigates knowledge-sharing techniques and strategies applied by practitioners in the context of distributed agile projects.

- Techniques of Artificial Intelligence Supporting Knowledge Management

The main objective of the study “Actuator Fault Diagnosis Using Single and Meta-Classification Strategies” is to compare either single or meta-classification strategies that can be successfully used as a reasoning means in diagnostic-aided expert system. The authors propose a new approach for searching proper values of relevant parameters of classifiers used for fault diagnosis.

The article “Intelligent Association Rules for Innovative SME Collaboration” provides a pre-analysis of the path of successful SME alliances leading to improvements in innovative power. The implication of the study is generic enough to help any SME or research organization or large business to reduce risks in future alliances.

- Components of Knowledge Flow

The contribution “Managing Intellectual Capital in Knowledge Economy” presents an overview of experiences and research works in applying artificial intelligence approaches and techniques for intellectual capital management. The article also describes a method and tools to treat this wealth differently and to activate and stimulate a discussion on the role of this capital in knowledge economy and in innovation ecosystems.

The papers cover essential subjects in collaborative human-machine intelligence and reflect research performed at different academic centers.

We hope you will enjoy reading these papers.

October 2015

Eunika Mercier-Laurent
Mieczysław Lech Owoc
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Fedcsis 2014, Warsaw, Poland – Marcin Paprzycki, Maria Ghanza, Leszek Maciaszek

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