
Foreword

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Biographical notes: Mirjana Ivanovic holds position of full professor since 2002. She is member of University Council for informatics for more than ten years. She is the author or co-author of 13 textbooks, 13 edited proceedings, three monographs, and of more than 440 research papers on machine learning, multi-agent systems, technology enhanced learning, applications of intelligent techniques. Most of her papers are published in international journals and conferences proceedings. She is/was a member of program committees of more than 300 international conferences and general and program committee chair of numerous international events. Also, she has been invited speaker at several international conferences and visiting lecturer in Australia, Thailand and China. As leader and researcher, she has been participated in numerous international projects. She is the Editor-in-Chief of *Computer Science and Information Systems Journal*.

Richard Chbeir is a Professor of Computer Science at the University of Pau and the Adour Region in France where he leads the computer science laboratory called LIUPPA. He is the Director of the Semantics and Privacy in Digital Ecosystems Research group (SPiDER) and head of the OpenCEMS Industrial Chair and Chair of the French Chapter ACM SIGAPP. He received his PhD in Computer Science from the Institut national des sciences appliquées de Lyon in 2001 and got his Habilitation degree in 2010 from the University of Burgundy.

He is currently working on information and knowledge extraction. He has published more than 200 papers in international journals and conferences, and has served on the program and editorial committees of several international conferences and journals.

Yannis Manolopoulos is a Professor Emeritus of Aristotle University, Thessaloniki; Vice-Rector of Open University of Cyprus. He has been with University of Toronto, University of Maryland, University of Cyprus and Hellenic Open University. He has served as the President of Board of University of Western Macedonia and Vice-President of Greek Computer Society. His research focuses in data management. He has co-authored six monographs and >350 journal and conference papers. He has received >15,700 citations from >100 countries (h-index = 57). He serves in the editorial boards of several journals and in the board of the Research and Innovation Foundation of Cyprus.

Joe Tekli is an Associate Professor, Lebanese American University. He has completed various research missions: University of Michigan; University of Pau; University of Sao Paulo; University of Shizuoka; University of Milan. He was awarded various fellowships: Fulbright (USA), FAPESP (Brazil), JSPS (Japan), Fondazione Cariplo (Italy), French Ministry of Education. He has coordinated/participated in various projects: FAPESP (Brazil, 2016–2020), LAU-NCSR-L (Lebanon, 2018–2020), NCSR-L (Lebanon, 2016–2017), STICAmSud (France, 2013–2014). His research covers semi-structured and multimedia data processing, and has more than 50 publications. He is Vice Chair of ACM SIGAPP French Chapter and founding member of UN-ESCWA Knowledge Hub.

The 10th International Conference on Web Intelligence, Mining and Semantics (WIMS 2020) took place during the period between the 30th of June and the 3rd of July 2020 as a virtual event, organised by the University of Pau and Pay Adour, France. Previously, WIMS had been hosted at Seoul, Korea (2019), Novi Sad, Serbia (2018), Anantea, Italy (2017), Nimes, France (2016), Limassol, Cyprus (2015), Thessaloniki, Greece (2014), Madrid, Spain (2013), Craiova, Romania (2012) and Sogndal, Norway (2011).

Eight papers have been selected and invited for possible inclusion in this special issue. The authors of six papers accepted this invitation and submitted revised version of their conference papers, after extending them by at least 40% with non-trivial material. Each paper has undergone a review process of two rounds; also, it has been reviewed by two referees at least. The list of reviewers appears at the end of this editorial. Finally, five papers have been accepted for inclusion in the special issue. The topics of these five papers span a wide spectrum related to web intelligence, mining and semantics.

The title of the first paper is ‘Spot extraction and analysis using an automatic detection method of tourist spots using SNS’ and is co-authored by Munenori Takahashi, Masaki Endo, Shigeyoshi Ohno (Polytechnic University, Tokyo, Japan), Masaharu Hirota (Okayama University of Science, Japan) and Hiroshi Ishikawa (Tokyo Metropolitan University, Japan). Several tourism information systems are available due to social networks, Twitter in particular. A low-cost moving average method using geotagged tweets posted location information has been proposed to estimate the best time for phenological observations. Geotagged tweets are also useful for estimating and acquiring local tourist information in real time. The authors have been working on estimating the best time to view cherry blossoms. The methods developed to date can estimate spots that

a user knows; however, they are insufficient to estimate cherry blossoms that are unknown to users. A user requires system independent of the user's own knowledge. The authors propose a prototype system that estimates the best time without prior knowledge of tourist destinations. In the early stages, the purpose is to use tweets to find spots already featured in magazines and on the web. As described herein, they detected spots automatically using a geotagged tweet by visualisation with a heat map and by setting conditions. The proposed method achieved it in about 80% of cases. The authors also assessed observation of cherry blossom front lines of viewing using geotagged tweets.

Bo Fu (California State University, USA) and Ben Steichen (University Pomona, USA) have authored the second paper entitled: 'Supporting user-centred ontology visualisation: predictive analytics using eye gaze to enhance human-ontology interaction'. While significant research efforts have focused on visualisation layouts, adapting to the individual user has been largely overlooked in typical ontology visualisation systems. This provides an opportunity to potentially seek more personalised support in ontology visualisation. As such, this paper utilises a tumbling window analytical technique and demonstrates accurate predictions of a user's likelihood to succeed in a given task based on this person's latest gaze data during an interactive session. The authors show several trial scenarios where statistically significant accuracies are achieved for two commonly used ontology visualisations in the presence of mixed user backgrounds and task domains. In addition, depending on the gaze features that emphasise a user's search or processing activities, or cognitive workload, trial results show earlier predictions as well as higher accuracies can be achieved in some cases. Furthermore, an investigation of influential gaze features reveals a combination of gaze traits is often associated with higher user success. These findings motivate and highlight potentially ample opportunities to adapt to the individual user throughout various interactive stages in the realisation of adaptive ontology visualisation.

The title of the third paper is 'MEI2JSON: a pre-processing music scores converter' and is co-authored by Charbel El Achkar and Talar Atéchian (Antonine University, Lebanon). Converting music score content from symbolic formats to simplified data formats is found useful for artificial intelligence purposes. The conversion can be applied using XSL stylesheets and ontologies to ensure the preserving of the data quality throughout the transformation. In this paper, the authors proposed a new converter capable of transforming music scores encoded in MEI to JSON format for pre-processing purposes, and future usage into artificial intelligence techniques. The proposed converter uses an Eastern music score ontology capable of structuring standard music scores content in addition to elements and attributes specific to eastern music. Thus, the converter shares the same support for eastern music scores. The authors illustrate the conversion process by assessing the computational complexity, the data quality, and the storage of the proposed converter in comparison with a combined approach composed of two state-of-the-art converters.

Martin Lentschat, Patrice Buche (University of Montpellier, France), Juliette Dibie-Barthelemy (University Paris-Saclay, France) and Mathieu Roche (University of Montpellier, France) have authored the fourth paper entitled 'Towards combined semantic and lexical scores based on a new representation of textual data to extract experimental data from scientific publications'. This article presents an ontological and terminological resource guided process for complete extraction of scientific experimental data. This method relies on the scientific publication representation SciPuRe describing the extracted data through ontological, lexical and

structural features. Relevance scores may then be computed according to these features to rank the results and sort out some of the numerous false positives. Linear and sequential combinations of these scores are presented, implemented and evaluated. Experiments were carried out on a corpus of 50 English language scientific papers in the food packaging field for the purpose of extracting the most relevant entities related to permeability relations. The findings revealed that article segment categories are an effective criterion for filtering out a majority of quantitative entity false positives. The relevance of extracted symbolic entities may also be assessed on the basis of sequential combinations of semantic and lexical scores. Some of the results can then be sorted according to a threshold while also providing a useful measure of the extracted data relevance for the use of experts and advanced processing.

The title of the fifth paper is 'Estimating deflation representing people spreading in stream data and estimating a specific position' and is co-authored by Takuma Toyoshima, Masaki Endo, Takuo Kikuchi (Polytechnic University Tokyo, Japan), Shigeyoshi Ohno (Polytechnic Center Shige, Japan) and Hiroshi Ishikawa (Metropolitan University Tokyo, Japan). With the expanded use of social media such as Twitter in recent years, it has become easy to add various information such as location data using mobile devices. Using those data, one can observe the real world without using physical sensors. Therefore, social media have high operational value as social sensors. The authors aim to support decision-making for people who intend to visit a specific place at which an event or some trouble recently occurred. After proposing a method of real-time extraction of data reflecting a burst state showing people's concentration, their inactivity, and continuous flow and dispersion, the authors confirm the method's effectiveness. Also, they estimate the location information of tweets for the purpose of further improving the estimation accuracy. Since few tweets have accurate location information, they use the content text of the tweet to find the tweet posted at the event occurrence location by machine learning. Finally, they study changes in the accuracy of the proposed method due to the increase in the data to be analysed.

We own gratitude to the referees who kindly participated in the effort and helped in delivering a special issue with interesting papers, and hopefully with papers that will demonstrate significant impact in the future. In particular, we would like to thank the following academicians:

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