

Studies in Computational Intelligence

Volume 830

Series editor

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Intelligent Information and Database Systems: Recent Developments

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Preface

The ongoing integration of various intelligent information, database systems and technologies—including artificial intelligence, social media, multimedia, cloud computing, and big data processing—leads to important synergy of those fields. It results in new practical solutions and applications as well as broadens the scope of theoretical analyses and approaches. But it also creates previously not considered concerns and problems, related not only to the scale but also to new functionalities of created methods and systems. This includes such issues as reliability and long-term integrity of critical applications, energy efficiency of big data storage, processing, organization, and quality assurance during the development of very complex systems. Continuous research in the fields of intelligent information and database systems provides an opportunity to identify and address those problems by suggesting and creating further solutions and technologies.

The main goal of this book is to present and intensify practical application of current knowledge and state of the art emerging in the field of intelligent information and database systems. Thus, it includes a set of carefully selected research papers presenting new methods, technologies and applications. The represented scope of topics encompasses a wide spectrum of research subjects discussed both from the theoretical and practical points of view. The book covers such fundamental aspects of intelligent information and database systems as artificial and computational intelligence, nature-inspired algorithms and paradigms, collective knowledge and ontologies, computer vision techniques, and multi-dimensional large-scale data processing. At the same time, it presents a number of interdisciplinary topics including social networks, system security, cloud computing, Internet of things, business intelligence, and biomedical data analysis.

This volume in the well-established “Studies in Computational Intelligence” series can be a valuable source of knowledge about current problems and solutions in the field. It contains a selection of 34 chapters based on original research presented as posters during *the Asian Conference on Intelligent Information and Database Systems (ACIIDS 2019)* held on 8–11 April 2019 in Yogyakarta, Indonesia. This eleventh edition of the ACIIDS conference was organized by the

Wrocław University of Science and Technology, Poland, together with BINUS University, Indonesia, and their partners.

The book will be a useful resource and reference for researchers and practitioners interested in increasing synergy between artificial intelligence and database technologies as well as for graduate and Ph.D. students in computer science and related fields.

Finally, on behalf of the Steering Committee, Program Committee and Organizing Committee of the ACIIDS 2019 we would like to thank all the authors for sharing their research during the conference. We also extend our thanks to all reviewers for their time, engagement, and expertise. And special gratitude we express to Prof. Janusz Kacprzyk, the editor of this series, and Dr. Thomas Ditzinger from Springer for their interest and support for our project. The help of those people was invaluable in the preparation of this book.

Yogyakarta, Indonesia
April 2019

Maciej Huk
Marcin Maleszka
Edward Szczerbicki

Contents

Part I Sensor Clouds and Internet of Things

Proposing Smart Disaster Management in Urban Area	3
Dyah Wahyu Sukmaningsih, Wayan Suparta, Agung Trisetyarso, Bahtiar Saleh Abbas and Chul Ho Kang	
Ubiquitous Rehabilitation Combining Inertial Measurement System with Smartphone and Supported by Visual and Voice Feedback	17
Bartłomiej Pędryś, Henryk Josiński and Konrad Wojciechowski	
Decision Making Based on IoT Data Collection for Precision Agriculture	31
Christine Dewi and Rung-Ching Chen	
Meeting Smart City Latency Demands with SDN	43
Filip Holik	
Speech Activity Detection for Deaf People: Evaluation on the Developed Smart Solution Prototype	55
Ales Berger and Filip Maly	
Mobile Application Framework for IobT Hydrogen Skin Moisturizing	67
Bilguun Jargalsaikhan, Ki Yong Kim, Erdenebileg Batbaatar, Kwang Ho Park, Pham Van Huy, Jong Yun Lee and Keun Ho Ryu	
Measurement of Usability for Speech Recognition on Ok Google	83
Emny Harna Yossy, Wayan Suparta, Agung Trisetyarso, Bahtiar Saleh Abbas and Chul Ho Kang	

Part II Machine Learning and Decision Support Systems

The Data Dimensionality Reduction and Features Weighting in the Classification Process Using Forest Optimization Algorithm	97
Daniel Kostrzewa and Robert Brzeski	

Recent Developments on Evolutionary Computation Techniques to Feature Construction	109
Idheba Mohamad Ali O. Swesi and Azuraliza Abu Bakar	
Semantic Web Languages: Expressivity of SWL	123
Martin Žáček, Alena Lukasová, Marek Vajgl and Zdeňka Telnarová	
Application of Distance Measurement NLP Methods for Address and Location Matching in Logistics	137
Leo Mrsic	
An Investigation of Information Granulation Techniques in Cybersecurity	151
Sani Suleiman Isah, Ali Selamat, Roliana Ibrahim and Ondrej Krejcar	
Convolutional Neural Network for Satellite Image Classification	165
Mohammed Abbas Kadhim and Mohammed Hamzah Abed	
A Survey of Tacit Knowledge in Community Learning Based on Measurement Dimensions	179
Winanti, Ford L. Gaol, Raymond Kosala, Suhono Harso Supangkat and Benny Ranti	
Land Cover Classification Based on Sentinel-2 Satellite Imagery Using Convolutional Neural Network Model: A Case Study in Semarang Area, Indonesia	191
Yaya Heryadi and Eka Miranda	
Part III Computer Vision Techniques and Applications	
Using the Game Engine in the Animation Production Process	209
Artur Bąk and Marzena Wojciechowska	
Visual Keyboards or QR Codes in an Inclusive School Environment	221
Vojtěch Gybas, Libor Klubal and Kateřina Kostolányová	
Human Identification Based on Shallow Learning Using Facial Features	231
Van-Dung Hoang, Cong-Hieu Le and The-Anh Pham	
Steganography and Cryptography for User Data in Calendars	241
Péter Vörös, Péter Hudoba and Attila Kiss	
Part IV Intelligent Systems in Biomedicine	
Modeling and Extraction of Retinal Blood Vessels from RetCam 3 Based on Morphological Segmentation	255
Alice Krestanova, Jan Kubicek, Juraj Timkovic, Marek Penhaker, David Oczka and Jan Vanus	

Modelling Medical Information and Knowledge with OWL and Topic Maps	265
Martina Husáková	
Comet Assay Classification for Buccal Mucosa's DNA Damage Measurement with Super Tiny Dataset Using Transfer Learning	279
Afiahayati, Edgar Anarossi, Ryna Dwi Yanuarieska, Fajar Ulin Nuha and Sri Mulyana	
The New Approach to Detect Scar Healing	291
Lukas Peter, Antonino Proto, Dan Kamensky and Iveta Bryjova	
Correction of the Eye Fundus Blood Vessels Images	301
Janusz P. Kowalski, Grzegorz Galant, Jakub Peksinski and Grzegorz Mikolajczak	
Part V Applications of Intelligent Information Systems	
Implementation of Decision Tree Algorithm on Game Agent of First Aid Educational Game	313
Gunawan, Asep Nurhuda and Reza Andrea	
A Generic Framework for Cross Domain Recommendation	323
Muhammad Murad Khan and Roliana Ibrahim	
Measurement of Service Quality of a Public Transport System, Through Agent-based Simulation Software	335
Mauro Callejas-Cuervo, Helver A. Valero-Bustos, Andrea C. Alarcón-Aldana and Miroslava Mikušova	
Detection of Drivers Plate at Smart Driver's Score Application Controlled by Voice Commands	349
Ondrej Vondra, Jan Dvorak, Ondrej Krejcar and Peter Brida	
Integration Challenges for Outsourcing of Logistics Processes in E-Commerce	363
Adam Wasilewski	
Performance Improvement of Open Source Based Business Intelligence System Using Database Modeling and Outlier Detection	373
Tsatsral Amarbayasgalan, Meijing Li, Oyun-Erdene Namsrai, Bilguun Jargalsaikhan and Keun Ho Ryu	
Designing an Intelligent Controller for Improving PEM Fuel Cell Efficiency	387
S. Dhanya, Rani Thottungal, Varghese Paul and S. Anand Hareendran	

The Systems' Integration Conception for Transactional Costs Reduction in Polish Financial Companies	397
Ewelina Wróbel and Marcin Hernes	
Design of Reactive Systems for Control Network Traffic on the Kubernetes Platform	409
Lubos Mercl, Vladimir Sobeslav and Peter Mikulecky	
Model of the Information System in the Organization for Controlling Current Level of Information Security	423
Jerzy Stanik, Maciej Kiedrowicz and Jarosław Napiórkowski	
Author Index	437