
Table of Contents

Committees	9
Data Analytics for Clouds Health-Care and Risk Predictions based on Ensemble Classifiers and Subjective Projection	11
Hamido Fujita • <i>Iwate Prefectural University, Japan</i>	
The Entanglement of Control and IT in 21st Century: Intelligent Systems	13
Okyay Kaynak • <i>Bogazici University, Turkey; and Harbin Institute of Technology (HIT), China</i>	
CyberMedical Systems: Challenges and Possibilities	15
Levente Kovács • <i>Óbuda University, Budapest, Hungary</i>	
LPV-based Control of Nonlinear Compartmental Model with Input Uncertainty	17
György Eigner, Árpád Varga, Miklós Mezei, Levente Kovács • <i>Óbuda University, Budapest, Hungary</i>	
Trends in Software Maintenance Tasks Distribution among Programmers: A Study in a Micro Software Company	23
Zeljko Stojanov, Jelena Stojanov, Dalibor Dobrilovic, Nikola Petrov <i>University of Novi Sad/Technical faculty “Mihajlo Pupin”, Zrenjanin, Serbia</i>	
Program Guide and Data Management Software System for Theaters	29
István Bege, Melinda Tóth, Károly Simon • <i>Babes-Bolyai University, Cluj-Napoca, Romania</i> Zoltán Szilágyi, Levente Kintzel • <i>Codespring, Cluj-Napoca, Romania</i>	
FPGA-based Low-Cost Real-Time Face Recognition	33
Laszlo Schaffer, Zoltan Kincses, <i>University of Szeged</i> Szilveszter Pletl, <i>Collage of Applied Sciences, Subotica Tech, Subotica, Serbia</i>	
Competency-based Learning Model in Practice	39
Larisa Dedović, Denis Mušić • <i>University “Džemal Bijedić” of Mostar, Mostar, BiH</i>	
Industrial Acoustic Signal Processing with Graph-based Features	45
Tibor Dobján • <i>John von Neumann University, Kecskemét, Hungary</i> Péter Kardos, Gábor Németh • <i>University of Szeged, Szeged, Hungary</i>	
FaceTime – Deep Learning-based Face Recognition Attendance System	51
Marko Arsenovic, Srdjan Sladojevic, Andras Anderla, Darko Stefanovic <i>University of Novi Sad, Novi Sad, Serbia</i>	
Constructing World Sustainability Models – the Challenge of the Future	57
Eva Pataki *, Andor Sagi **, Anita Sabo* * <i>Subotica Tech - College of Applied Sciences, Subotica, Serbia</i> ** <i>General Hospital of Subotica, Subotica, Serbia</i>	
Modern Feature Extraction Methods and Learning Algorithms in the Field of Industrial Acoustic Signal Processing	63
Tibor Dobján and Elvira D. Antal • <i>John von Neumann University, Kecskemét, Hungary</i>	
Classification of Hotel Guests by Predicted Additional Spending with ANN Decision Support System	69
Vladimir Bugarski, Dragan Matić, Filip Kulić • <i>University of Novi Sad, Novi Sad, Serbia</i>	

The Economic Impact of Diabetes.....	75
<i>Zsolt Fézer, Levente Kovács • Óbuda University, Budapest, Hungary</i>	
Distance Function Associated With the g-integral With Respect to the Interval-valued \oplus-measure.....	81
<i>Slavica Medić, Nataša Duraković, Vesna Bogdanović, Tatjana Grbić, Ivana Lončarević, Ljuba Budinski-Petković University of Novi Sad, Novi Sad, Serbia</i>	
Fixed Point Results of Suzuki Type.....	85
<i>Tatjana Došenović, Dušan Rakić, Aleksandar Takači • University of Novi Sad, Novi Sad, Serbia</i>	
On Solutions of Distributivity Equations for Mayor’s Aggregation Operators.....	91
<i>Dragan Jočić* and Ivana Štajner-Papuga** * Nova Sad Business School, Nova Sad, Serbia ** University of Nova Sad, Nova Sad, Serbia</i>	
Generalized Minkowski type Inequality for Pseudo-Integral	97
<i>Biljana Mihailović, Mirjana Štrboja • University of Novi Sad, Novi Sad, Serbia</i>	
Overview of Taxi Database from Viewpoint of Usability for Traffic Model Development: a Case Study for Budapest	103
<i>Árpád Varga, György Eigner, Levente Kovács, Imre Felde, Miklós Mezei Óbuda University, Budapest, Hungary</i>	
State Estimation for UAVs Using Sensor Fusion.....	109
<i>Zsófia Bodó*, Béla Lantos** *Budapest University of Technology and Economics, Hungary **MTA-BME Control Engineering Research Group, Budapest, Hungary</i>	
Complementary Functions for Intelligent Wheelchair Head Tilts Controller	115
<i>Mohammed Faeik Ruzajj Al-Okby*, **, Sebastian Neubert*, Norbert Stoll*, Kerstin Thurow* *University of Rostock, Rostock, Germany **Al-Furat Al-Awsat Technical University (ATU), Babylon, Iraq</i>	
Soft-Computing-based Classification and Design of Quantum Dot Nanostructures on GaAs Substrate	121
<i>Antal Ürmös, Zoltán Farkas, Tamás Sándor, Ákos Nemcsics Óbuda University, Budapest, Hungary</i>	
Solution of the Repetitive Control Circuit Using W–Transform.....	127
<i>M. Tóthová*, J. Pitel*, M. Balara** * Technical University of Košice, Prešov, Slovakia ** J. M. Petzval Society, Prešov, Slovakia</i>	
Dispositional Trust – Do We Trust Autonomous Cars?.....	131
<i>Kornelia Lazanyi, Gréta Maráczsi Óbuda University, Budapest, Hungary</i>	
Creating Smart, Sustainable and Safe Cities	137
<i>Dániel Tokody, Imre János Mezei Óbuda University, Budapest, Hungary</i>	
The Role of IT in International Student Mobility: The Y-Generation Case	143
<i>Péter Holicza, Pál Fehér-Polgár Óbuda University, Budapest, Hungary</i>	

Selection of Unmanned Aerial Vehicle for Precision Agriculture with Multi-Criteria Decision Making Algorithm	149
Imre Petkovics*, János Simon**, Ármin Petkovics***, Zlatko Čović*	
* <i>University of Novi Sad, Subotica, Serbia; ** Subotica Tech – College of Applied Sciences, Subotica, Serbia</i>	
*** <i>Budapest University of Technology and Economics, Budapest, Hungary</i>	
Human Action Recognition with Hidden Markov Models and Neural Network Derived Poses.....	155
Egbert Gedat, Pascal Fechner, Richard Fiebelkorn, Ralf Vandenhouten	
<i>Wildau Technical University of Applied Sciences, Wildau, Germany</i>	
Minimum-Time Path Tracking for Robots with Non-Convex Constraints	161
Ákos Nagy, István Vajk	
<i>Budapest University of Technology and Economics</i>	
<i>MTA-BME Control Engineering Research Group, Budapest, Hungary</i>	
Synthesis of the Proportional Integral Controller for a Minimum Phase High Order System by using the Lambert W Function.....	167
Radmila Gerov*, Zoran Jovanović**	
* <i>School of Agriculture with a student's dormitory Rajko Bosnić, Negotin, Serbia</i>	
** <i>University of Niš, Niš, Serbia</i>	
Uniform Dispersal of Silent Oblivious Robots	173
Attila Hideg*, Lukovszki Tamás**, Bertalan Forstner*	
* <i>Budapest University of Technology and Economics, Budapest, Hungary</i>	
** <i>Eötvös Loránd University, Budapest, Hungary</i>	
Software as a Service in Cloud-based ERP Change Management	177
István Orosz, Tamás Orosz	
<i>Óbuda University /AMK, Székesfehérvár, Hungary</i>	
A Prescription-based Automatic Medical Diagnosis System using a Stacking Method	183
Shiva Kazempour Dehkordi, Hedieh Sajedi • <i>University of Tehran, Tehran, Iran</i>	
Data Packet Header Actions in Fault Tolerance of Persistent Routing Sessions	187
Stefano-Niko Orzen, Sorin Babii • <i>Politehnica University of Timișoara, Timișoara, Romania</i>	
Differentiation of Identical Actinobacterial Strains by Wavelet Transform and Artificial Neural Network	193
Seyyed Amir Hosein Rahimi, Hedieh Sajedi, Fatemeh Mohammadipannah	
<i>University of Tehran, Tehran, Iran</i>	
Comparison of Maintenance Experts' Opinions	199
László Pokorádi, József Gáti, Csaba Fenyvesi, Gábor Ágoston • <i>Óbuda University, Budapest, Hungary</i>	
A Case Study of a Hybrid Flow Shop with No-Wait and Limited Idle Time to Minimize Material Waste....	205
Houda Harbaoui*;** , Soulef Khalfallah** , Odile Bellenguez-Morineau*	
* <i>Institut Mines Telecom Atlantique, Nantes Cedex 3, France</i>	
** <i>Université de Sousse, Hammam Sousse, Tunisia</i>	
Model-based Evaluation and Inspection of an Advanced Driver Assistance System-based Spatial Image Acquisition Sensor	211
M. Szántó • <i>Budapest University of Technology and Economics, Budapest, Hungary</i>	
Diagnostic Measurement and Data Evaluation for the Effective Performance of Motor Vehicles with Free Acceleration	217
István Lakatos, Péter Óri • <i>Széchenyi István University, Győr, Hungary</i>	

Review of Predictive Analytics Vendors for Transport Management Systems	223
Albert Nagy, József Tick • <i>Óbuda University, Budapest, Hungary</i>	
Soft-Computing Methods Applied in Parameter Analysis of Educational Models.....	229
Igor Bagány*, Márta Takács*,**	
* <i>Óbuda University, Budapest, Hungary</i>	
** <i>University of Novi Sad/Hungarian Language Teacher Training Faculty, Subotica, Serbia</i>	
Fixed Point Transformation-based Adaptive Optimal Control Using NLP	235
Hamza Khan, Ágnes Szeghegyi and József K. Tar • <i>Óbuda University, Budapest, Hungary</i>	
Tube Model Predictive Control based on Laguerre Functions with an Auxiliary Sliding Mode Controller	241
Miodrag Spasic*, **, Darko Mitic*, Morten Hovd**, Dragan Antic*	
* <i>University of Nis, Serbia</i> ; ** <i>Norwegian University of Sciences and Technology, Trondheim, Norway</i>	
A New Lexicon Learning Algorithm for Sentiment Analysis of Big Data	247
Hamidreza Keshavarz, Mohammad Saniee Abadeh, Mehrdad Almasi	
<i>Tarbiat Modares University, Tehran, Iran</i>	
Cognitive Intelligent Robust Control System based on Quantum Fuzzy Inference for Robotics and Mechatronics.....	251
S. V. Ulyanov, A. G. Reshetnikov • <i>Dubna State University, Moscow Region, Russia</i>	
Comparison of Time- and Frequency-Domain Features for Movement Classification using Data from Wrist-Worn Sensors.....	257
Peter Sarcevic*, Szilveszter Pletl**, Zoltan Kincses*,**	
* <i>University of Szeged, Szeged, Hungary</i> ; ** <i>Subotica Tech, Subotica, Serbia</i>	
Age Prediction based on Brain MRI Images using Feature Learning.....	263
Nastaran Pardakhti, Hedieh Sajedi • <i>University of Tehran, Tehran, Iran</i>	
Novel Alignment Method for DNN TTS Training using HMM Synthesis Models	271
Siniša Suzić*, Tijana Delić*, Darko Pekar**, Vladimir Ostojčić*	
* <i>University of Novi Sad, Novi Sad, Serbia</i> ; ** <i>AlfaNum Speech Technologies, Novi Sad, Serbia</i>	
Evaluation of Machine Learning Algorithms for Intrusion Detection System	275
Mohammad Almseidin*, Maen Alzubi*, Szilveszter Kovacs*, Mouhammd Alkasassbeh**	
* <i>University of Miskolc, Miskolc, Hungary</i> , ** <i>Mutah University, Amman, Jordan</i>	
Duplicated Control Unit Based Embedded Faultmasking Systems	279
György Györök, Bertalan Beszédes • <i>Óbuda University, Székesfehérvár, Hungary</i>	
Cybersecurity Issues of Pension Payments.....	285
Zsolt Szabó • <i>Óbuda University, Budapest, Hungary</i>	
Human Security Training, Development Possibility in the Context of the Safety Risks in Hungary	291
Gyula Csege, Tamás Gall • <i>Óbuda University, Budapest, Hungary</i>	
Fuzzy-Voting Systems in Smart Cities	297
Anna Barbara Szabó*, Péter Balázs Soproni**	
* <i>Óbuda University, Budapest, Hungary</i> ,	
** <i>Budapest University of Technology and Economics, Budapest, Hungary</i>	
Intellectual Visualization of Complex Maps and Schemes.....	303
Stanislav Belyakov, Marina Savelyeva, Marina Belyakova, Sergey Zubkov	
<i>Southern Federal University, Taganrog, Russia</i>	

Measuring Team Member Performance in Scrum - Case Study.....	309
Robert Pinter, Sanja Maravić Čisar, Petar Čisar	
<i>Subotica Tech – College of Applied Science</i>	
<i>Academy of Criminalistic and Police Studies, Belgrade-Zemun, Serbia</i>	
Clustering with a Model of Sub-Mixtures of Different Distributions	315
Ivan Nagy*,**, Evgenia Suzdaleva*, Matej Petrouš*	
* <i>The Institute of Information Theory and Automation of the Czech Academy of Sciences, Prague, Czech Republic</i>	
** <i>Czech Technical University, Prague, Czech Republic</i>	
The Role of Wikipedia in Transmitting Knowledge based on Higher Education – Focusing on a Possible Value of Formal and Informal Learning Dimensions	321
György Molnár, Zoltán Szűts	
<i>Budapest University of Technology and Economics, Budapest, Hungary</i>	
A Expert System for Stomach Cancer Images with Artificial Neural Network by using HOG Features and Linear Discriminant Analysis: HOG_LDA_ANN	325
Sevcan Aytaç Korkmaz*, Hamidullah Binol**, Ayşegül Akçiçek*, Mehmet Fatih Korkmaz*	
* <i>Firat University, Elazığ, Turkey; ** Istanbul Technical University, Istanbul, Turkey</i>	
Computational Relaxations for Affine Tensor Product Model Transformation.....	331
József Kuti, Péter Galambos • <i>Óbuda University, Budapest, Hungary</i>	
Recognition of the Stomach Cancer Images with Probabilistic HOG Feature Vector Histograms by using HOG Features.....	335
Sevcan Aytaç Korkmaz*, Ayşegül Akçiçek*, Hamidullah Binol**, Mehmet Fatih Korkmaz*	
* <i>Firat University, Elazığ, Turkey</i>	
** <i>Istanbul Technical University, Istanbul, Turkey</i>	
Labor Market Risks of Industry 4.0, Digitization, Robots and AI.....	341
Zoltán Rajnai*, István Kocsis**	
* <i>Óbuda University, Budapest, Hungary; ** Ministry for National Economy, Budapest, Hungary</i>	
Security Systems: The Introduction of Biometric Technology as a Smart Solution.....	347
Lourdes Cecilia Ruiz Salvador • <i>Óbuda University, Budapest, Hungary</i>	
Info-Communication Areas of Modernizing Field C2 Systems and Command Posts in the Interest of Successful Home Defense- Peace Operations- and Disaster-Management Tasks	353
Tibor Farkas • <i>National University of Public Service, Budapest, Hungary</i>	
Erika Hronyecz • <i>Óbuda University, Budapest, Hungary</i>	
The Review of the External Risk Factors during the Operation Training Plan of the Security Guards	359
Anikó Szabó, Zoltan Rajnai • <i>Óbuda University, Budapest, Hungary</i>	
Answers to the 21st Century Challenges at a University with Technical Training.....	363
Franciska Hegyesi, Gyula Kártyás, József Gáti	
<i>Óbuda University, Budapest, Hungary</i>	