Journal of Universal Computer Science, vol. 26, no. 6 (2020), 647-648
submitted: 29/4/20, accepted: 5/5/20, appeared: 28/6/20

Progress in Features, Data, Patterns and Similarity Analysis

J.UCS Special Issue

Michał Choraś
(University of Science and Technology, UTP Bydgoszcz, Poland
chorasm@utp.edu.pl)

Salvatore D'Antonio
(University of Perthenope, Naples, Italy
salvatore.dantonio@uniparthenope.it)

Jörg Keller
(Faculty of Mathematics and Computer Science, FernUniversität in Hagen, Germany
joerg.keller@fernuni-hagen.de)

Rafał Kozik
(University of Science and Technology, UTP Bydgoszcz, Poland
rkozik@utp.edu.pl)

In this Special Issue of the prestigious Journal of Universal Computing Science (J.UCS) we collected several interesting papers concerning recent progress in feature extraction, pattern recognition, data analysis, data balancing and similarity analysis.

The selected papers show progress in solving current challenges of pattern recognition, decision systems and computer science in general.

Indraja Elžbieta Germanaitė, Kęstutis Zaleckis, Rimantas Butleris and Kristina Jarmalavičienė propose a configurable methodology for Spatial Pattern (SP) description, identification and application and provide a case study in the Urban Planning and Design (UPD) domain.

Mahmoud Hammad, Mohammed Al-Smadi, Qanita Bani Baker, Muntaha Al-Asa'd, Nour Al-Khdour, Mutaz Bni Younes and Enas Khwaileh propose a machine learning-based approach to the detection of similarity between two questions in Arabic language and compare different classifiers.

Oscar Camacho-Nieto, Cornelio Yáñez-Márquez and Yenny Villuendas-Rey propose an undersampling algorithm using a clustering-based approach for dealing with imbalanced datasets and demonstrate that it outperforms state of the art techniques.

Jedrzej Biedrzycki and Robert Burduk take a new view on tree ensemble classification, taking into account not only final class predictions by majority voting of individual trees, but also additional information in the form of the distance from the decision boundary.

Mariusz Topolski proposes an innovative feature extraction method for type B-CLL chronic leukemia prognosis. This approach allows for class distributions separation and feature space reduction, which turns out to be an effective remediation for the curse of dimensionality problem.

Lukasz Apiecionek, Jacek M. Czerniak, Dawid Ewald and Mateusz Biedziak investigate automatic heating control in a smart home based on fuzzy logic with ordered fuzzy numbers and evaluate their system in a climate chamber.

We would like to express our thankfulness to Christian Gütl (Managing Editor) and Dana Kaiser (Head of Editorial Team) for permitting us to organize this special issue under the umbrella of the Journal of Universal Computer Science.

We also like to thank all reviewers who facilitated the review process, namely:

Tomasz Andrysiak
Janusz Bobulski
Robert Burduk
Vibekananda Dutt
Tomasz Hachaj
Marek Kraft
Paweł Ksieniewicz
Sebastian Litzinger
Krzysztof Okarma
Marek Pawlicki
Tibor Vince