

Editorial

With this first issue (March 2022), *CIT. Journal of Computing and Information Technology* enters its 30th year of continuous publishing. Following the retirement of Professor Vlado Glavinić, there have been some changes in the Editorial Team this year. First, I welcome Marko Đurasević and Nikolina Frid as the new Managing Editors. Second, Domagoj Jakobović and Goran Delač have now become members of the Editorial Board, while Zoran Kalafatić and Tomislav Hrkać have joined us as Associate Editors. Next, Kourosh Neshatian became the Editor for Scientific Integrity. I would like to thank Richard Torkar for his valuable service over the years as our former Editor for Scientific Integrity. Lastly, Professor Glavinić has kindly accepted my invitation to become the Honorary Editor-in-Chief, valuing his years-long effort and experience in leading our journal.

This March 2022 issue (Vol. 30, No. 1) of *CIT. Journal of Computing and Information Technology* brings four papers from the areas of machine learning, risk prediction, anomaly detection, and social networks.

The first paper in this issue is titled *Performance Comparison of the Cogent Confabulation Classifier with Other Commonly Used Supervised Machine Learning Algorithms for Bathing Water Quality Assessment*. The authors Antonia Ivanda, Ljiljana Šerić, Maja Braović, and Darko Stipančević address the use of a seldomly used machine learning classifier, *i.e.*, cogent confabulation classifier, in assessing bathing water quality. The dataset collected in this study is a combination of binary (good, poor) in-situ measurements of bathing water quality and Sentinel-3 OLCI satellite remote sensing measurements based on 21 near-infrared frequency bands. The water quality analysis was performed for the areas of Kaštela Bay and the Brač Channel, located in Croatia. The cogent confabulation classifier was originally proposed by Hech-Nielsen in 2005 and is defined similarly to Naïve Bayes. The authors have shown that it clearly outperformed all the variants of Naïve Bayes on the investigated problem, although the results were not better than for other, more complex, machine learning methods. Still, the authors propose that cogent confabulation classifier should be considered for similar tasks due to its simplicity.

With improvements in information technology, human resource management (HRM) can nowadays be conducted partly in digital form. Nevertheless, the risk of using the underdeveloped technologies for HRM can be significant in practice. In the paper titled *Risk Prediction of Digital Human Resource Management Based on Artificial Intelligence*, the author Yongda Hu develops a conceptual model of digital HRM system. Also, a method for predicting the risks associated with the use of digital HRM is proposed, which uses risk event chains based on gated recurrent units included in the risk event graph based on a gated graph neural network. Several risk prediction models are assessed using ROC and P-R curves and it is verified that the proposed model shows advantages in terms of stability and accuracy of digital HRM risk prediction with respect to other models. The paper also shows that the proposed model's prediction performance reaches its maximum when the number of risk events reaches 1,500 and the number of risk event chain divisions reaches 20.

Jianhong Lin, Peng Wang, and Chunming Wu deal with the topic of fraudulent telecom users' detection, with respect to inappropriate calls, SMS messaging, websites, and mobile apps use. A dataset is made available by the China Unicom Big Data Co., Ltd, and it consists of 5,609 users (1,109 risky ones) with several million log entries. In their paper, titled *Anomaly Identification Model for Telecom Users Based on Machine Learning Model Fusion*, the authors propose a machine learning-based hybrid method for anomaly detection. The method comprises several data preprocessing

steps, including feature construction, feature selection, and imbalanced data handling, and a stacking model ensemble based on several state-of-the-art machine learning classifiers. The results show that the stacking model fusion slightly improves the results of individual classifiers and can predict telecommunication user categories with an F-score of 96.84%.

In the last paper of the issue, an online short video platform (OSVP) was considered, which is a type of growing popularity social networks in China. Thus, Guang-Ming Sun, Shuo Wang, Yun-Kai Zhang, Yang Liu, Jin Gao, and Qin Xie explore user behaviors, preferences, and user interactions on the OSVP in their paper titled *Behavior Analysis of User Interaction on Online Short Video Platform*. As OSVPs achieve an ever-growing commercial value, it is important to understand how the users interact with the platform. Therefore, the authors propose an interaction model based on activity, attention, and interactivity, each measured by a set of objective metrics which are extracted from the platform. The interaction model is explored and analyzed based on graph theory (nodes-and-edges analysis) applied to several aspects of OSVP (e.g., user influence, short video user preferences, etc.). The preferences of 4,100 users for 16 video classes were analyzed through cluster analysis using historical data models. The results show that inter-class distance was higher and intra-class distance was lower for the proposed clustering model compared to k-means and fuzzy c-means clustering models on this problem. In addition, the indices of degree centrality analysis have shown that OSVP users being followed are concentrated, with a high centrality, while the users that follow others are dispersed, with a low centrality.

Alan Jović
Editor-in-Chief