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Editorial

The 1st International Electronic Conference on Algorithms (IOCA 2021) †

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This Special Issue of *Computer Sciences and Mathematics Forum* is dedicated to the 1st Electronic Conference on Algorithms (IOCA 2021), which was held completely online from 27 September to 10 October 2021. We received 49 submissions, among which 32 works have been finally accepted and posted for discussion at the conference [1]. The conference subjects were split into eight sections:

(1) Databases and Data Structures;
(2) Combinatorial Optimization, Graph and Network Algorithms;
(3) Evolutionary Algorithms and Machine Learning;
(4) Parallel and Distributed Algorithms;
(5) Randomized, Online and Approximation Algorithms;
(6) Analysis of Algorithms and Complexity Theory;
(7) Algorithms for Multidisciplinary Applications; and
(8) Artificial Intelligence Algorithms.

In addition, there was a webinar with three presentations by Prof. Dr. Alberto Pinto (University of Porto, Porto, Portugal), Dr. Pietro Oliveto (University of Sheffield, Sheffield, UK), and Prof. Dr. Bruce Watson (Stellenbosch University, Stellenbosch, South Africa). This live session was attended by 24 scientists. There was a large interest in the conference, which resulted in 12,184 website views by 5239 unique visitors until now. Among the accepted works for the conference, there was a strong interest in the field of machine learning, particularly deep learning. Another main focus among the submissions was problems related to graphs and networks.

At the end of the conference, the Best Paper Award was assigned to two papers, namely 'Quickest Transshipment in an Integrated Network Topology' by Iswar Mani Adhikari and Tanka Nath Dhamala and 'A Hybrid Deep Learning Approach for COVID-19 Diagnosis via CT and X-ray Medical Images' by Pramodha M, Abullah Y Muaad, Benifa Bibal J.V., Hanumanthappa J., Channabasava Chola, and Mugahed A Al-antari.

After the conference, the authors of the 32 accepted presentations were invited to submit either an abstract with supplementary material or a proceedings paper of about eight pages. This issue contains 22 of these works, among them 6 abstracts with supplementary material and 16 proceedings papers. These 22 works cover a broad range in the field of developing algorithms.

The abstracts presented in this paper deal with image-based algorithms, approximation algorithms for the Traveling Salesman Problem or iterative schemes for solving nonlinear systems of equations. Other subjects are how to avoid temporal confounding in time series forecasting, the multi-commodity contraflow problem, or hopscotch methods for the heat conduction equation.

The 16 other detailed proceeding papers consider, e.g., the maximum multi-commodity flow problem, the fastest transshipment in an evacuation problem, metaheuristic algorithms

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for the permutation flow shop problem, and structural monitoring problems, to name. Several papers deal with machine learning or particularly deep learning approaches. As an example, a hybrid deep learning approach for COVID-19 diagnosis, a deep learning model for polysilicon MEMS (microelectromechanical systems) sensors, and deep learning methodologies for the diagnosis of respiratory disorders from chest X-ray images are presented.

The authors of the 22 works contained in this issue come from 17 countries: Vietnam, Mexico, Saudi Arabia, Spain, India, Germany, Nepal, Hungary, Italy, USA, Iran, Japan, France, Turkey, Costa Rica, Yemen, and Korea. The conference therefore reached a wide audience from several continents.

As the Conference Chair, it is my pleasure to thank all authors for their interesting submissions and presentations in a broad spectrum of fields in the development of algorithms, all members of the Program Committee, and all reviewers for their timely insightful reports. My special thanks go to the members of the conference secretariat for the pleasant cooperation before, during, and after the conference. Finally, I would like to mention that another Special Issue for extended papers in the journal *Algorithms* is in preparation. I also hope to receive many interesting submissions to the second edition of this conference in the future.

Conflicts of Interest: The author declares no conflict of interest.

Reference

1. Conference Home Page. Available online: https://www.mdpi.com (accessed on 27 March 2022).