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ICAI Workshops (ICAIW 2021)


Joint Proceedings of the


- Second International Workshop on Applied Artificial Intelligence (WAAI 2021)**
- Third International Workshop on Applied Informatics for Economics, Society and Development (AIESD 2021)**
- Fourth International Workshop on Data Engineering and Analytics (WDEA 2021)**
- First International Workshop on Knowledge Management and Information Technologies (WKMIT 2021)**
- Fourth International Workshop on Smart and Sustainable Cities (WSSC 2021)**

co-located with the Fourth International Conference on Applied Informatics (ICAI 2021)

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Preface

This volume contains the proceedings of the workshops: Second International Workshop on Applied Artificial Intelligence (WAAI 2021), Third International Workshop on Applied Informatics for Economy, Society, and Development (AIESD 2021), Fourth International Workshop on Data Engineering and Analytics (WDEA 2021), First International Workshop on Knowledge Management and Information Technologies (WKMIT 2021), and Fourth International Workshop on Smart and Sustainable Cities (WSSC 2021). These workshops were co-located with the Fourth International Conference on Applied Informatics (ICAI 2021)¹ and held online due to the COVID-19 pandemic, from 28 to 30 October 2021.

Second International Workshop on Applied Artificial Intelligence (WAAI 2021).

The workshop on Applied Artificial Intelligence is an annual event intended to be an important forum of the Artificial Intelligence (AI) community, organized by the GRUPO GEMIS of the Universidad Tecnológica Nacional Facultad Regional Buenos Aires. The workshop aims to provide a forum for researchers and AI community members to discuss and exchange ideas and experiences on diverse topics of AI. It also seeks to strengthen a space for discussion of innovative ideas as well as development of emerging technologies and practical experiences related to Artificial Intelligence in general and each of its technologies in particular. Submissions are invited on both applications of AI and new tools and foundations.

Third International Workshop on Applied Informatics for Economy, Society, and Development (AIESD 2021).

The workshop on Applied Informatics for Economy, Society and Development organized by the Universidad Tecnológica Empresarial de Guayaquil (Ecuador) seeks to promote discussion and dissemination of current economics research, systems for territorial intelligence, e-participation, e-democracy and territorial economic development; with special emphasis on social and environmental development. The objective of this third edition of AIESD 2021 is to discuss aspects related to computer science applied in society. The idea is to learn the different techniques and tools that are used to study social phenomena, economic growth, the interaction between economic analysis and decision-making. The workshop seeks to promote an atmosphere of dialogue among the community of professionals working on issues related to technology and its application in the economy as well as society.

Fourth International Workshop on Data Engineering and Analytics (WDEA 2021).

Data has become pervasive. Data Analytics, Data Mining, Data Science, or more generally the practice of identifying patterns or constructing mathematical models based on data, is at the heart of most new business models or projects. This, coupled with what has been termed the Big Data phenomenon, used to describe challenging scenarios involving either datasets that are too big to be handled using traditional approaches, datasets with diverse formats and semantics, data streams that need to be actioned in real time, or a combination of these, has led to a whole new series of rapidly evolving tools, algorithms and methods which combine data engineering, computer science, statistics and mathematics. The aim of this workshop is to present recent results at the intersection of these areas, discussing new methods or

¹<http://icai.itiud.org/>

algorithms, or applications including Machine Learning, Databases, optimization or any type of algorithms which consider managing or obtaining value from data.

First International Workshop on Knowledge Management and Information Technologies (WKMIT 2021). The workshop on Knowledge Management and Information Technologies is an annual event intended to be an important forum of the Knowledge Management (KM) community, organized by the GRUPO GEMIS of the Universidad Tecnológica Nacional Facultad Regional Buenos Aires. The knowledge is a strategic resource to obtain better results in the organizations and its management promotes continuous improvement practices and innovation. A complete and integral knowledge management requires an approach from different perspectives: people, organizational culture, processes, tools and technologies, among others. The workshop aims at providing a forum for researchers and KM community members to discuss and exchange ideas and experiences on diverse topics of KM. It also seeks to strengthen a space for discussion of innovative ideas, development of emerging technologies and practical experiences related to Knowledge Management in general and each of its technologies in particular.

Fourth International Workshop on Smart and Sustainable Cities (WSSC 2021). The International Telecommunication Union ITU defines a smart sustainable city as: “An innovative city that uses information and communication technologies (ICTs) and other means to improve quality of life, efficiency of urban operation and services, and competitiveness, while ensuring that it meets the needs of present and future generations with respect to economic, social, environmental as well as cultural aspects”. The aim of this workshop is to present recent results in this area, discussing new methods or algorithms, or applications in different areas including architecture, cultural, tourism, mobility, among others.

The workshops received 27 submissions in total. All submitted papers underwent a double blind peer review process, where each paper was reviewed by at least two (2) experts. After a careful discussion, the diverse program committees decided to accept thirteen research papers overall. This volume contains these papers. These papers are distributed as follows across the workshops: three papers from WAAI, three papers from AIESD, two papers from WDEA, two papers from WKMIT, and three papers from WSSC.

We wish to thank the Program Committee members and all additional reviewers for their efforts.

All the workshops took place on 28 October 2021. In all of them, each paper presentation was immediately followed by comments from session chairs and a plenary discussion. We thank all session chairs for their careful preparations and for triggering the discussions.

October 2021

Hector Florez
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