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Volume 31

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Computational Intelligence in Data Mining - Volume 1

Proceedings of the International Conference on CIDM, 20-21 December 2014

Springer

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Preface

The First International Conference on "Computational Intelligence in Data Mining (ICCIDM-2014)" was hosted and organized jointly by the Department of Computer Science and Engineering, Information Technology and MCA, Veer Surendra Sai University of Technology, Burla, Sambalpur, Odisha, India between 20 and 21 December 2014. ICCIDM is an international interdisciplinary conference covering research and developments in the fields of Data Mining, Computational Intelligence, Soft Computing, Machine Learning, Fuzzy Logic, and a lot more. More than 550 prospective authors had submitted their research papers to the conference. ICCIDM selected 192 papers after a double blind peer review process by experienced subject expertise reviewers chosen from the country and abroad. The proceedings of ICCIDM is a nice collection of interdisciplinary papers concerned in various prolific research areas of Data Mining and Computational Intelligence. It has been an honor for us to have the chance to edit the proceedings. We have enjoyed considerably working in cooperation with the International Advisory, Program, and Technical Committees to call for papers, review papers, and finalize papers to be included in the proceedings.

This International Conference ICCIDM aims at encompassing a new breed of engineers, technologists making it a crest of global success. It will also educate the youth to move ahead for inventing something that will lead to great success. This year's program includes an exciting collection of contributions resulting from a successful call for papers. The selected papers have been divided into thematic areas including both review and research papers which highlight the current focus of Computational Intelligence Techniques in Data Mining. The conference aims at creating a forum for further discussion for an integrated information field incorporating a series of technical issues in the frontier analysis and design aspects of different alliances in the related field of Intelligent computing and others. Therefore the call for paper was on three major themes like Methods, Algorithms, and Models in Data mining and Machine learning, Advance Computing and Applications. Further, papers discussing the issues and applications related to the theme of the conference were also welcomed at ICCIDM.

The proceedings of ICCIDM have been released to mark this great day in ICCIDM which is a collection of ideas and perspectives on different issues and some new thoughts on various fields of Intelligent Computing. We hope the author's own research and opinions add value to it. First and foremost are the authors of papers, columns, and editorials whose works have made the conference a great success. We had a great time putting together this proceedings. The ICCIDM conference and proceedings are a credit to a large group of people and everyone should be there for the outcome. We extend our deep sense of gratitude to all for their warm encouragement, inspiration, and continuous support for making it possible.

Hope all of us will appreciate the good contributions made and justify our efforts.

Acknowledgments

The theme and relevance of ICCIDM has attracted more than 550 researchers/ academicians around the globe, which enabled us to select good quality papers and serve to demonstrate the popularity of the ICCIDM conference for sharing ideas and research findings with truly national and international communities. Thanks to all who have contributed in producing such a comprehensive conference proceedings of ICCIDM.

The organizing committee believes and trusts that we have been true to the spirit of collegiality that members of ICCIDM value, even as maintaining an elevated standard as we have reviewed papers, provided feedback, and present a strong body of published work in this collection of proceedings. Thanks to all the members of the Organizing committee for their heartfelt support and cooperation.

It has been an honor for us to edit the proceedings. We have enjoyed considerably working in cooperation with the International Advisory, Program, and Technical Committees to call for papers, review papers, and finalize papers to be included in the proceedings.

We express our sincere thanks and obligations to the benign reviewers for sparing their valuable time and effort in reviewing the papers along with suggestions and appreciation in improvising the presentation, quality, and content of this proceedings. Without this commitment it would not be possible to have the important reviewer status assigned to papers in the proceedings. The eminence of these papers is an accolade to the authors and also to the reviewers who have guided for indispensable perfection.

We would like to gratefully acknowledge the enthusiastic guidance and continuous support of Prof. (Dr.) Lakhmi Jain, as and when it was needed as well as adjudicating on those difficult decisions in the preparation of the proceedings and impetus to our efforts to publish this proceeding.

Last but not the least, the editorial members of Springer Publishing deserve a special mention and our sincere thanks to them not only for making our dream come true in the shape of this proceedings, but also for its brilliant get-up and in-time publication in Smart, Innovation, System and Technologies, Springer.

I feel honored to express my deep sense of gratitude to all members of International Advisory Committee, Technical Committee, Program Committee, Organizing Committee, and Editorial Committee members of ICCIDM for their unconditional support and cooperation.

The ICCIDM conference and proceedings are a credit to a large group of people and everyone should be proud of the outcome.

Himansu Sekhar Behera

About the Conference

The International Conference on "Computational Intelligence in Data Mining" (ICCIDM-2014) has been established itself as one of the leading and prestigious conference which will facilitate cross-cooperation across the diverse regional research communities within India as well as with other International regional research programs and partners. Such an active dialogue and discussion among International and National research communities is required to address many new trends and challenges and applications of Computational Intelligence in the field of Science, Engineering and Technology. ICCIDM 2014 is endowed with an opportune forum and a vibrant platform for researchers, academicians, scientists, and practitioners to share their original research findings and practical development experiences on the new challenges and budding confronting issues.

The conference aims to:

- Provide an insight into current strength and weaknesses of current applications as well as research findings of both Computational Intelligence and Data Mining.
- Improve the exchange of ideas and coherence between the various Computational Intelligence Methods.
- Enhance the relevance and exploitation of data mining application areas for end-user as well as novice user application.
- Bridge research with practice that will lead to a fruitful platform for the development of Computational Intelligence in Data mining for researchers and practitioners.
- Promote novel high quality research findings and innovative solutions to the challenging problems in Intelligent Computing.
- Make a tangible contribution to some innovative findings in the field of data mining.
- Provide research recommendations for future assessment reports.

So, we hope the participants will gain new perspectives and views on current research topics from leading scientists, researchers, and academicians around the world, contribute their own ideas on important research topics like Data Mining and Computational Intelligence, as well as network and collaborate with their international counterparts.

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Prof. Lakhmi C. Jain is with the Faculty of Education, Science, Technology and Mathematics at the University of Canberra, Australia and University of South Australia, Australia. He is a Fellow of the Institution of Engineers, Australia. Professor Jain founded the Knowledge-Based Intelligent Engineering System (KES) International, a professional community for providing opportunities for publication, knowledge exchange, cooperation, and teaming. Involving around 5,000 researchers drawn from universities and companies worldwide, KES facilitates international cooperation and generates synergy in teaching and research. KES regularly provides networking opportunities for the professional community through one of the largest conferences of its kind in the area of KES. His interests focus on artificial intelligence paradigms and their applications in complex systems, security, e-education, e-healthcare, unmanned air vehicles, and intelligent agents.

Prof. Himansu Sekhar Behera is working as a Reader in the Department of Computer Science Engineering and Information Technology, Veer Surendra Sai University of Technology (VSSUT) (A Unitary Technical University, Established by Government of Odisha), Burla, Odisha. He has received M.Tech. in Computer Science and Engineering from N.I.T, Rourkela (formerly R.E.C., Rourkela) and Doctor of Philosophy in Engineering (Ph.D.) from Biju Pattnaik University of Technology (BPUT), Rourkela, Government of Odisha respectively. He has published more than 80 research papers in various international journals and conferences, edited 11 books and is acting as a member of the editorial/reviewer board of various international journals. He is proficient in the field of Computer Science Engineering and served in the capacity of program chair, tutorial chair, and acted as advisory member of committees of many national and international conferences. His research interest includes Data Mining and Intelligent Computing. He is associated with various educational and research societies like OITS, ISTE, IE, ISTD, CSI, OMS, AIAER, SMIAENG, SMCSTA, etc. He is currently guiding seven Ph.D. scholars.

Prof. Jyotsna Kumar Mandal is working as Professor in Computer Science and Engineering, University of Kalyani, India. Ex-Dean Faculty of Engineering, Technology and Management (two consecutive terms since 2008). He has 26 years of teaching and research experiences. He was Life Member of Computer Society of India since 1992 and life member of Cryptology Research Society of India, member of AIRCC, associate member of IEEE and ACM. His research interests include Network Security, Steganography, Remote Sensing and GIS Application, Image Processing, Wireless and Sensor Networks. Domain Expert of Uttar Banga Krishi Viswavidyalaya, Bidhan Chandra Krishi Viswavidyalaya for planning and integration of Public domain networks. He has been associated with national and international journals and conferences. The total number of publications to his credit is more than 320, including 110 publications in various international journals. Currently, he is working as Director, IQAC, Kalyani University.

Prof. Durga Prasad Mohapatra received his Ph.D. from Indian Institute of Technology Kharagpur and is presently serving as an Associate Professor in NIT Rourkela, Odisha. His research interests include software engineering, real-time systems, discrete mathematics, and distributed computing. He has published more than 30 research papers in these fields in various international Journals and conferences. He has received several project grants from DST and UGC, Government of India. He received the Young Scientist Award for the year 2006 from Orissa Bigyan Academy. He has also received the Prof. K. Arumugam National Award and the Maharashtra State National Award for outstanding research work in Software Engineering for the years 2009 and 2010, respectively, from the Indian Society for Technical Education (ISTE), New Delhi. He is nominated to receive the Bharat Shiksha Ratan Award for significant contribution in academics awarded by the Global Society for Health and Educational Growth, Delhi.