

IEEE/CIS Publications Activities



In the past issues, I presented some of the activities that the Computational Intelligence Society is doing to serve your needs in the various theoretical and application areas of computational intelligence; namely, the organization of the technical activities and the dissemination of achievements by means of conferences.

Research and successful application presented at conferences usually are achievements that were obtained a few months before the meetings. Often these presentations aim to report the idea and the major outcomes, but are not sufficiently comprehensive and the related experiments are not extensive; besides, sometimes the theoretical framework and the literature background are not completely assessed. This is the negative aspect that we have to accept if we desire a fast circulation of innovative knowledge for the general advancement of the field and the practice.

However, more solid foundations are definitely needed when real, significant, consistent development of research and applications are envisioned. To achieve this goal, more time is needed for authors to rethink their work more quietly and deeply, to view it in the perspective of the whole available literature, to assess their results with extensive and detailed analysis and experiments, and to address the comments and the concerns of the scientific and professional communities. Dissemination of well-assessed original results and comprehensive tutorial reviews are the fundamental ways by which achievements become knowledge milestones, upon which researchers and professionals can confidently rely for their future works.

In this issue, I focus the attention on archival publications, which are the basic media to ensure dissemination of assessed knowledge, which has been peer-reviewed by the scientific and professional communities to ensure high quality. All technical committees and task forces in CIS are expected to promote publication of knowledge in archival journals and books, in order to contribute to their dissemination and advancement.

The CIS publishes several of these journals and books for the benefit of both the scientific and the professional communities worldwide. Some of these publications are in cooperation with other associations and IEEE Societies and Councils.

Transactions are directed to record highly technical material, with a rigorous, scientific formal presentation. Original results are presented and discussed in the perspective of the background knowledge and the overall technical scenario, with extensive experimental evaluations and comparative discussions. Tutorial papers with many technical details are published to create comprehensive reference points in the literature and a global overview on a specific topic.

Magazines aim to be more easily readable, even though technically and scientifically detailed, in order to provide a dissemination channel to a wider readership. Often, tutorial papers help to introduce areas of interest and technologies.

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Books constitute a comprehensive presentation on specific topics in the field of computational intelligence, as reference points for scientists and professionals. Some are mostly directed to present scientific aspects and advancements, while others have a more practical approach suited as a textbook or for a professional readership.

The CIS publishes three major transactions that are the technical journals for the three oldest computational intelligence technologies: the IEEE Transactions on Neural Networks, the IEEE Transactions on Fuzzy Systems, and the IEEE Transactions on Evolutionary Computation. These publications are very well known as the premier venues for these technologies. Their relevance and visibility in the worldwide scenario is outstanding and continuously growing.

To offer a great benefit and a unique opportunity for cross-disciplinary knowledge, the online access to these transactions is offered free of charge to the CIS members; in addition, their printed versions are bundled in the IEEE Computational Intelligence Periodical Package with a large discount for CIS members.

The CIS is also cooperating with other publications in emerging areas in which computational intelligence provides a unique expertise and new opportunities for addressing complex, evolving problems. These publications are: the ACM/IEEE Transactions on Computational Biology and Bioinformatics, the IEEE Transactions on NanoBioscience, the IEEE Transactions on Biomedical Circuits and Systems, the IEEE Transactions on Nanotechnology, the IEEE Transactions on Information Forensics and Security, and the IEEE Systems Journal. CIS members can subscribe to these publications at a significantly discounted rate.

The IEEE Computational Intelligence Magazine is the flagship publication of the CIS. Introductory and tutorial papers help the readers to under-

stand the field of interest of the CIS and the new directions of research and applications. This magazine constitutes also the forum to present the life of the society, its main achievements and opportunities offered to members and all people interested in computational intelligence.

The CIS is also cooperating in the IEEE Nanotechnology Magazine, directed to promote the field of nanotechnologies in which computational intelligence plays a relevant role.

The CIS is publishing books in the Computational Intelligence Series with the IEEE Press. The titles are reference books in the respective fields and are recognized by experts and the general technical public as unique contributions to the dissemination of the computational intelligence knowledge.

All of the above archival publications contain material that is of unique interest and value both for scholars and professionals who are interested in the theoretical aspects of computational intelligence and in the theoretical issues in using these technologies in the various applications.

However, the CIS is aware of the increasing need for more practical information and knowledge, especially for practicing engineers. Professionals often have real-world application problems to solve in a very short time; even though they are often intellectually delighted to understand how the computational intelligence technologies work, they rarely have sufficient time to learn the theory behind our technologies and to experiment their use. They need practical study cases, successful examples, methodologies, and practical usage guidelines.

To address these needs, the CIS is promoting the publication of tutorial papers in the Computational Intelligence Magazine, which describe the use of computational intelligence technologies in various application fields.

Besides, the CIS is warmly encouraging the submission of high-quality technical papers to our transactions pre-

senting the effective use of our technologies in the application fields. These papers should not focus on the applications (papers on applications should be submitted to the transactions in the corresponding application area), but on the use of the computational intelligence technologies, the encountered problems due to the characteristics and the limits of the current computational intelligence technologies, the adopted solutions that enhance these technologies and their effective use, and the possible unsolved challenges for the computational intelligence technologies. These kinds of papers will be highly valuable both for the practicing engineers in the various application areas and the scientists in computational intelligence; the first ones will benefit from the successful cases and the practical guidelines, the second ones will receive feedback about their technologies and new challenges to advance the discipline and the overall knowledge about computational intelligence.

Further studies are in progress at the IEEE and the CIS levels to expand the support to professionals with appropriate publications and reference materials.

Are you interested in cooperating with our publications? Please visit our Web site and contact the Vice President for Publications or the Editors-in-Chief. We will be glad and honored to consider your proposal since it may contribute to the overall vision of our society and to the advancement of science, technologies, and applications.

If you have any comments, suggestions, or criticism, then please do not hesitate to contact me at piuri@dti.unimi.it; or the Vice President for Publications, Dr. Jim Keller, at KellerJ@missouri.edu. We will be very glad to hear from you and involve you in the Society's life!

