IWANN 2013

12th International Work-Conference on Artificial Neural Networks (IWANN'2013) (Advances in Computational Intelligence)

Hotel Hotel Beatriz Atlantis, Canary Islands (Tenerife-Puerto de la Cruz) Spain; 12-14 June, 2013

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http://www.iwann-conference.org
http://iwann.ugr.es/

SCOPE

This biennial meeting seeks to provide a discussion forum for scientists, engineers, educators and students about the latest ideas and realizations in the foundations, theory, models and applications of hybrid systems inspired on nature (neural networks, fuzzy logic and evolutionary systems) as well as in emerging areas related to the above items. As in previous editions of IWANN, it also aims to create a friendly environment that could lead to the establishment or strengthening of scientific collaborations and exchanges among attendees.

The proceedings will include all the presented communications to the conference. As in previous editions of IWANN, we are arranging the publication of the proceedings with Springer-Verlag on Lecture Notes on Computer Science (LNCS) series, and the books will be available on-site. It is also foreseen the publication of an extended version of selected papers in a special issue on several specialized journals.

IWANN is included in the ranking of the best conferences established by the Computer Science Conference Ranking based on the "Estimated Impact of Conference (EIC,2009)", concretely in position 55 among 701 considered (in the Artificial Intelligence field), and in the rank B in Computing Research and Education Association (CORE). Also the IWANN papers are indexed by CiteSeer.IST, and by the organization Computing Research and Education Association (CORE).

TOPICS

The topics of interest include, but are not limited to:

1. **Mathematical and theoretical methods in computational intelligence.** Mathematics for neural networks. RBF structures. Self-organizing networks and methods. Support vector machines and kernel methods. Fuzzy logic. Evolutionary and genetic algorithms.
2. **Neurocomputational formulations.** Single-neuron modelling. Perceptual modelling. System-level neural modelling. Spiking neurons. Models of biological learning.
3. **Learning and adaptation.** Adaptive systems. Imitation learning. Reconfigurable systems. Supervised, non-supervised, reinforcement and statistical algorithms.
4. **Emulation of cognitive functions.** Decision Making. Multi-agent systems. Sensor mesh. Natural language. Pattern recognition. Perceptual and motor functions (visual, auditory, tactile, virtual reality, etc.). Robotics. Planning motor control.
5. **Bio-inspired systems and neuro-engineering.** Embedded intelligent systems. Evolvable computing. Evolving hardware. Microelectronics for neural, fuzzy and bioinspired systems. Neural prostheses. Retinomorphic systems. Brain-computer interfaces (BCI) Nanosystems. Nanocognitive systems.
6. **Advanced topics in computational intelligence.** Intelligent networks. Knowledge-intensive problem solving techniques. Multi-sensor data fusion using computational intelligence. Search and meta-heuristics. Soft Computing. Neuro-fuzzy systems. Neuro-evolutionary systems. Neuro-swarm. Hybridization with novel computing paradigms
7. **Applications.** Expert Systems. Image and Signal Processing. Ambient intelligence. Biomimetic applications. System identification, process control, and manufacturing. Computational Biology and Bioinformatics. Parallel and Distributed Computing. Human Computer Interaction, Internet Modeling, Communication and Networking. Intelligent Systems in Education. Human-Robot Interaction. Multi-Agent Systems. Time series analysis and prediction. Data mining and knowledge discovery.

IMPORTANT DATES

November 19, 2012	Submission of Special Session proposals
November 28, 2012	Special Session acceptance.
January 28, 2013	Submission of papers by authors
February 25, 2013	Notification of provisional acceptance.
March 11, 2013	Submission of final papers.
March 11, 2013	Early registration (special rates).
June 12-14, 2013	IWANN Conference.

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