Special Session on
Human Monitoring and Machine Learning Strategies (HMMLS'2010)

Under the framework of the 10th International Conference on Intelligent Systems Design and Applications, ISDA'10
November 29 – December 1, 2010, Cairo, Egypt
Conference web page: http://cig.iet.unipi.it/isda2010/

Session Chairs

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Introduction: Today's evaluation of human clinical situations and healthcare technologies are changing dramatically over the last few decades. Healthcare technologies are increasingly become personal and pervasive, moving into healthcare professionals' working environment and patients' homes, and presenting new challenges to a machine learning-based monitoring and assessment of individual risk and healthcare applications. Advances in computer technology and data analysis could greatly contribute to the progress in this field. Modern research topics in the area of Information and Communication Technologies (ICT) and health involve wearable and unobtrusive biomedical sensors; ergonomic micro- and nano- systems; mobile and wireless communications; user interfaces; and intelligent signal processing and knowledge management. From a general point of view, a human monitoring complex system consists of different modules cooperating in order to perform data acquisition from multiple sensors, data analysis through several techniques and data redirection. Such healthcare systems combine the monitoring of health parameters and the patients' social and environmental context with expert biomedical knowledge to efficiently diagnose, treat or manage diseases, within the patient's preferred environment. Pattern classification, expert and artificial intelligence systems, better described as knowledge-based clinical decision support systems, are today found an effective application in ICT and health area. Many techniques are used for this purpose, but recently, the processing architectures are often performed by models inspired by biology, such as genetic algorithms, Artificial Neural Networks (ANN), Support Vector Machines (SVM) and Fuzzy Logic-based (FC) modelling. Many of the early efforts to apply artificial intelligence to reasoning problems in medicine have primarily used rule-based systems. The application of the machine learning approach would represent in perspective the cornerstone for the next generation of multi-parametric real-time portable monitoring and diagnostic devices and a real technological breakthrough. As a reflection of the growing importance of these research topics the Special Session will be dedicated to challenging efforts of information processing in medicine, as well as new perspectives.

- Information and Communication Technologies (ICT)

- Wearable and unobtrusive biomedical sensors;
- Ergonomic micro- and nano- systems;
- Mobile and wireless communications;
- User interfaces;
- Intelligent signal processing and knowledge managemen
- Etc.

Instructions for Authors:

Papers must correspond to the requirements detailed in the (Paper Submission) on the conference flyer http://cig.iet.unipi.it/isda2010/flyer.pdf and All accepted papers will be published in the proceedings of ISDA'10 that will be also included in the IEEEXplore digital library. Extended versions of selected papers will be considered for publication

Registration Fees:

All papers must be presented by one of the authors, who must pay the registration fees.
http://cig.iet.unipi.it/isda2010/

Paper Reviewing and Publication

Submitted papers will be reviewed. Accepted papers, which should not exceed 6 pages (PDF) following the double column IEEE format. All accepted papers will be published in the proceedings of the ISDA'10. Selected papers will be published in special issues of a selection of International Journals (to be announced).

Tentative Dates of Submission and Acceptance

- Deadline for paper submission June 26, 2010

- Notification of acceptance August 14, 2010

- Camera-ready manuscript submission September 15, 2010