MLMB 2017

Special Session on Machine Learning in Medicine and Biometrics
at the 9th International Conference on Computational Collective Intelligence (ICCCI 2017)

Nicosia, Cyprus, September 27-29, 2017
Conference website: http://cyprusconferences.org/iccci2017/

Special Session Organizers

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Objectives and topics

The goal of the MLB 2017 special session is to create a forum for exchange of experiences in machine learning and similar domains.This forum focuses on various machine learning approaches which can be applied in medical diagnostics and biometric systems.This meeting offers also an opportunity to gather research scientific works related to machine learning, medical data visualization and understanding in medical diagnosis, biomedical signals and biometrics.
We believe this session will be an important event,bringing together scientists and practitioners from all over the world what allows to better understanding changes and challenges in machine learning

Machine learning in a medical context:
Medical diagnostic reasoning is an important application area of computer-based systems. In this framework, diagnosis systems provide mechanisms for generation of hypotheses from patient's data. By machine learning approach these hypothesis can be checked and even improved with cooperation in medical experts.

Another field of application is biomedical signal processing. Understanding of biological systems is not complete. There are features and information hidden in the physiological signals which are not readily apparent. Biological signals are characterized by substantial variability, caused either by internal mechanisms or by external stimuli. Associations between the different parameters are complex and be discovered by machine learning techniques.

Medical image interpretation systems provide significant assistance in medical diagnosis. In most cases, the development of these systems is considered as an attempt toemulate the doctor's expertise in the identification of malignant regions in minimally invasive imagingprocedures. In this area image preprocessing as well as machine learning procedures is employed.

Biometric context:
Biometric is intrinsically classification problem. Machine learning algorithms and mathematical models are frequently used in biometric systems to implement decision function. Machine learning methods are useful in picking out of appropriate biometric features and useful in selecting the most appropriate classifiers. The most important biometric modalities are fingerprint, face, iris, signature, palm print and voice but also DNA, gait, and even behaviors. Nowadays, some biometric systems employee biological features – for example vascular biometrics refers to authentication, based on unique patterns of users' veins.

Potential topics include:

- Artificial intelligence in medicine
- Decision support systems

- Medical diagnosis supported machine learning algorithms
- Medical imaging supported machine learning techniques
- Medical image analysis
- Single and ensemble classifiers in biometrics and medicine
- Medical knowledge bases, databases and visualization of medical data
- Biomedical signal processing
- Biometric systems
- Other related topics

Any other topics related to the main track of the MLMB 2017 special session can be also submitted. Before submission please contact (by e-mail) with session organizers to confirm a suitability of a paper.

Important dates

Submission of papers: **May 1, 2017 (Hard deadline)**
Notification of acceptance: **June 1, 2017**
Camera-ready papers: **June 15, 2017**
Registration & payment: **June 15, 2017**
Conference date: **September 27-29,2017**

Program Committee (to be extended) – confirmation in progress

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Submission

All contributions should be original and not published elsewhere or intended to be published during the review period. Authors are invited to submit their papers electronically in pdf format, through EasyChair. All the special sessions are centralized as tracks in the same conference management system as the regular papers. Therefore, to submit a paper please activate the following link and select the track: *MLMB2017: Special Session on Machine Learning in Medicine and Biometrics.*

https://www.easychair.org/conferences/?conf=iccci2017

Authors are invited to submit original previously unpublished research papers written in English, of up to 10 pages, strictly following the LNCS/LNAI format guidelines. Authors can download the Latex (recommended) or Word templates available at Springer's web site. Submissions not following the format guidelines will be rejected without review. To ensure high quality, all papers will be thoroughly reviewed by the MLMB 2017 Program Committee. All accepted papers must be presented by one of the authors who must register for the conference and pay the fee. The conference proceedings will be published by Springer in the prestigious series LNCS/LNAI (indexed by ISI CPCI-S, included in ISI Web of Science, EI, ACM Digital Library, dblp, Google Scholar, Scopus, etc.).