

**The 17<sup>th</sup> IEEE International Conference on Machine Learning and Applications  
(ICMLA-2018)**

**Special Session: Machine Learning Algorithms, Systems and Applications  
December 17-20, 2018, Orlando, Florida, USA**

**[www.icmla-conference.org/icmla18](http://www.icmla-conference.org/icmla18)**

**Aim and Scope**

Many computer applications result in large volumes of data that require a set of techniques and tools to extract useful information for decision support, prediction, exploration and understanding of the phenomena governing the data sources. This workshop aims to bring together professionals, researchers, and practitioners to discuss efficient techniques, methods and tools to manage, exploit and interpret the increasing volumes of data in environments that may change continuously. The goal is to build models that are able to tackle and govern the high variability in stationary or non-stationary or complex hybrid systems. Such systems are being explored in various applications such as: medical diagnostics, robotics, business, industrial control, fault detection, quality control, surface inspection, system identification, transportation, communications, web applications, environmental monitoring, biomedical systems, decision support systems, security, and electronic services.

This special session invites submissions with newly development from those working in areas of machine learning algorithms, systems and applications. Topics covered by this workshop include but are not limited to:

- Standard and multi-label classification,
- Unsupervised learning, clustering, pattern recognition
- Deep Learning
- Regression and approximation models from data
- Data mining and machine learning techniques,
- Ensemble methods (bagging, boosting, model fusion techniques,...)
- Dimension reduction and variable selection methods
- Incremental learning methods,
- Adaptive, life-long and sequential learning,
- On-line classification and regression methods,
- Evolving structural components and systems modelling
- Concepts to address drifts and shifts in data streams (weighting, gradual forgetting etc.)
- On-line/Incremental Active and Semi-supervised learning concepts
- On-line Human-machine interaction and the incorporation of background knowledge  
Adaptive data pre-processing and knowledge discovery
- Real world applications such as:
  - On-Line modeling and system identification
  - Time-Series prediction and forecasting
  - On-line quality control systems and condition monitoring
  - Fault detection, isolation, identification and diagnosis,

- Predictive maintenance and prognostics
- Big Data, Web applications, Decision Support Systems, (Bio)Medical Applications
- Cloud Computing
- Robotics, intelligent transport and advanced manufacturing, Advanced communications and multi-media applications, Query systems and social networks, And many more ....

### **Submission Guidelines and Instructions**

Papers submitted for reviewing should conform to IEEE specifications. Manuscript templates can be downloaded from [IEEE website](#). The maximum length of papers is 8 pages. All the papers will go through double-blind peer review process. Authors' names and affiliations should not appear in the submitted paper. Authors' prior work should be cited in the third person. Authors should also avoid revealing their identities and/or institutions in the text, figures, links, etc.

Papers must be submitted via the [CTM System](#) by selecting the track "Special Session on Machine Learning Algorithms, Systems and Applications". All accepted papers must be presented by one of the authors, who must register. Detailed instructions for submitting papers can be found at [How to Submit](#).

### **Paper Publication:**

Accepted papers will be published in the ICMLA 2018 conference proceedings (published by IEEE). A selected number of accepted papers will be invited for possible inclusion, in an expanded and revised form, in some journal special issues.

### **Important Dates:**

Submission Deadline: September 7, 2018

Notification of Acceptance: October 7, 2018

Camera-ready papers & Pre-Registration: October 17, 2018

### **Special Session Organizers**

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### **Program committee**

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