IWINAC 2019 Special Session on Machine Learning Methods applied to Big Data Analysis, Processing and Visualization (MLBDAPV)

Aims:

The amount of data available every day is not only enormous, but growing at an exponential rate. Over the last years there has been an increasing interest in using machine learning methods to analyse and visualize massive data generated from very different sources and with many different features: social networks, surveillance systems, smart cities, medical diagnosis, business, cyberphysical systems or media digital data. This special session is designed to serve researchers and developers to publish original, innovative and state-of-the art machine learning algorithms and architectures to analyse and visualize large amounts of data.

This special session provides a platform for academics, developers, and industry-related researchers belonging to the vast communities of *Big Data*, *Machine Learning*, *Pattern Recognition*, *Visualization*, *Media Digital Data*, and many others, to discuss, share experience and explore traditional and new areas of Data analysis, processing or visualization and machine learning combined to solve a range of problems. The objective of the workshop is to integrate the growing international community of researchers working on the application of Machine Learning applied to Big Data analysis, processing and visualization to a fruitful discussion on the evolution and the benefits of this technology to the society.

The topics of interest are those related with big data, but we are particularly interested in candidates who have conducted research in the theoretical or practical aspects of big data – algorithms, machine learning, deep learning, statistical learning methods applied to one or more domains – software engineering, media digital data, bio-informatics, health care, imaging and video, social networks, natural language processing and others. It can be identified by, but are not limited to, the following subjects:

- Healthcare and medical diagnosis
- Social network modelling
- Financial risk assessment
- Marketing and E-commerce
- Multimedia data mining
- Visual surveillance
- Application Systems for Big Visual Data Understanding
- Education data mining
- Location big data mining
- Intelligent transportation system
- Web mining
- Text mining
- Sentiment analysis for social media
- Network security
• Smart cities
• Smart government
• Smart and cyberphysical devices
• Approximate and randomized methods for subspace learning, classification and clustering on Big Data
• Nonlinear learning techniques
• Distributed solutions for nonlinear big data processing and analysis
• Deep methods for representation learning, clustering and classification on Big Data
• Unsupervised and semi-supervised methods for Big Data
• Data-driven techniques for representation learning, clustering and classification on Big Data
• Big media data on the web and social networks
• Big multimedia data (signal, 2D/3D image, video) analysis in medicine, science and engineering
• Semantic visual analysis: human activity recognition, face/facial expression recognition, scene understanding, object detection and tracking, saliency detection
• Big Media Data applications, including media data summarization, post-processing, search and retrieval, video surveillance, robotics
• Big Media Data description, visualization and analytics
• Big cross-media analytics

Important dates:
Paper Submission Deadline
January 31, 2019

Paper acceptance notification date
April 30, 2019

Conference
June 3-7, 2019

Submission Guidelines:
Please follow the regular submission guidelines of IWINAC 2019. Please notify the chairs of your submission by sending an email to: igarcia@dtic.ua.es.

Chairs:
José García-Rodríguez - University of Alicante (Spain)
Enrique Domínguez – University of Malaga (Spain)
David Tomás - University of Alicante (Spain)
Jaime Oswaldo Salvador Meneses - Universidad Central del Ecuador (Ecuador)
Zoila Ruiz - Universidad Central del Ecuador (Ecuador)

Tentative program committee:
Lourdes de Agapito - Queen Mary University of London (UK)
Anastassia Angelopoulou – University of Westminster (UK)
Antonis Argyros – FORTH (Greece)
Jorge Azorín - University of Alicante (Spain)
Miguel Cazorla - University of Alicante (Spain)
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Magnus Johnsson- Lund University (Sweden)
Markos Mentzelopoulos – University of Westminster (UK)
Eduardo Nebot – Australian Centre for Field Robotics (Australia)
Asim Roy (Arizona State University, USA)
Peter Roth - TU Graz (Austria)
Sergio Velastin - Kingston University (UK)

Contact:
Email: jgarcia@dtic.ua.es
Main Conference webpage: http://www.iwinac.org/iwinac2019/
Special session webpage: http://www.dtic.ua.es/~jgarcia/IWINAC2019/

Biographies

**Jose García-Rodriguez** received his Ph.D. degree, with specialization in Computer Vision and Neural Networks, from the University of Alicante (Spain). He is currently Full Professor at the Department of Computer Technology of the University of Alicante. His research areas of interest include: computer vision, computational intelligence, machine learning, pattern recognition, robotics, man-machine interfaces, ambient intelligence, computational chemistry, and parallel and multicore architectures. He has authored +100 publications in journals and top conferences and revised papers for several journals like Journal of Machine Learning Research, Computational intelligence, Neurocomputing, Neural Networks, Applied Softcomputing, Image Vision and Computing, Journal of Computer Mathematics, IET on Image Processing, SPIE Optical Engineering and many others, chairing sessions in the last four editions of IJCNN, IWINAC and IWANN and participating in program committees of several conferences including IJCNN, ICRA, ICANN, IWANN, KES, ICDP and many others.

**David Tomás** is a Lecturer in the Department of Software and Computing Systems at the University of Alicante, Spain. His research interests include information retrieval, information extraction, question answering, sentiment analysis, recommender systems, and machine learning approaches to text categorization. He is the author of more than seventy scientific publications in international conferences and journals. He has participated in over thirty public and private projects, and revised papers for top journals and conferences such as Association for Computational Linguistics, Information Processing and Management, Expert Systems with Applications, IEEE Intelligent Systems, and ACM Intelligent Systems and Technology.
**Enrique Domínguez** is an associate professor at the Department of Computer Science from University of Málaga. He received his Ph.D. degree, with specialization on neural systems, from University of Málaga (Spain). He has collaborated with several companies (Airzone, Fujitsu, Altra Corporacion, Fundación Andaluza de la Seguridad Social, Evita, Acerca, ...) leading the computer vision workgroup of different research projects. Dominguez is author of more than 60 publications, reviewer of several journals such as IEEE Trans. of Neural Networks and Learning Systems, Neurocomputing, Neural Networks, International Journal of Parallel, Emergent and Distributed Systems, Neural Computing & Applications, Optimization, etc. and an associate editor of the International Journal of Computer Vision and Image Processing (IJCVIP). In addition, he has participated chairing several special sessions or as traditional member of the program committee of several conferences such as WCCI, IJCNN, IWINAC, IWANN, BMIC, ICANN, ASC, EURO and others.