evoapplications*

**25th European Conference on the Applications of Evolutionary and bio-inspired Computation**

part of **evo* 2022**
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evoapps*

special session on

# Evolutionary Computation in Image Analysis, Signal Processing and Pattern Recognition

evo* 2022

Evolutionary algorithms have been shown to be tools which can be used effectively in the development of systems (software or hardware) for image analysis, signal processing and pattern recognition in complex domains of high industrial and social relevance.

This special session tries to continue with the work started by the EvoIASP **evoapps*** track, started in 1999 as a workshop, the first event ever specifically dedicated to the applications of evolutionary computation to image analysis and signal processing (IASP), as well as to Pattern Recognition. EvoIASP aimed to offer European and non-European researchers in those fields, as well as people from industry, an opportunity to present their latest research and to discuss current developments and applications, besides fostering closer future interaction between members of the three scientific communities.

The proposed special session aims to bring together theories and applications of evolutionary computation techniques to computer vision, image analysis, pattern recognition and image and signal processing problems. In this sense, this special session aims to be a meeting place for researchers in these fields, with the aim of enriching the disciplines by means of the hybridization of state-of-the-art approaches from those domains. Topics of interest include, but are not limited to:

* New theories and methods in the application of evolutionary computation paradigms to computer vision, image analysis and image processing problems, signal processing and pattern recognition problems, vision and signal processing hardware and time series analysis.
* Comparisons between different evolutionary techniques and between evolutionary and non-evolutionary techniques in image analysis, signal processing and pattern recognition applications.
* Given the huge impact of deep learning in many scientific and engineering domains (e.g. computer vision, signal processing, and robotics), cross-fertilization of evolutionary computation and deep or shallow neural networks is especially encouraged. This includes research in transfer learning and domain adaptation, as well as new training strategies based on evolutionary computation techniques, and any hybridization of evolutionary computation with multi-layer perceptrons, autoencoders, adversarial networks, convolutional neural networks, and recurrent neural networks, among many other neural models.
* Hybridizations of evolutionary computation methods and other computational intelligence and machine learning techniques (e.g. fuzzy systems, reinforcement learning, artificial immune systems, and learning classifier systems), applied to computer vision, image analysis and image and signal processing tasks are also encouraged.

**Organizers**
Pablo Mesejo, Universidad de Granada (ES)
Harith Al-Sahaf, Victoria University of Wellington (NZ)

More info at:
http://www.evostar.org/2022/evoapps/iasppr