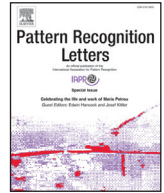




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Pattern Recognition Letters

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Special Section: CIARP 2018

After 23 editions, the Iberoamerican Congress on Pattern Recognition (CIARP) has become a key research event, and the most important in pattern recognition for the Iberoamerican community.

CIARP has always been an open international event, and the 2018 CIARP edition received submissions from more than 20 countries. In this edition, the largest presence was from Brazil, Chile, Colombia, Cuba, Mexico, Portugal, and Spain. On the other hand, there was also good presence from Algeria, France, Germany, Italy, Tunisia, UK, and USA; and also, presence from countries such as Japan, Russia, South Africa, and South Korea.

CIARP 2018 received 187 submissions. The review process for CIARP 2018 was diligent and required careful consideration of more than 550 reviews from 117 reviewers who spent significant time and effort in reviewing the papers. In the end 112 papers were accepted, which is a 59.9% of acceptance. To form the final program, 34 papers were selected for oral presentations (18.2% of all submissions) and 78 as poster presentations. The program was comprised of 6 oral sessions on the following topics: machine learning, computer vision (two sessions), classification, biometrics and medical applications, and brain signals. Three additional poster sessions included papers on all previous topics, and also on: text and character analysis, human interaction, and sentiment analysis.

The pattern recognition community is witnessing a *deep* transformation, now increasingly dominated by advances occurring at the industry in machine learning, computer vision, and related fields around pattern recognition. CIARP also considered this industrial vortex by incorporating a number of researchers and practitioners from key companies like IBM, Google, MathWorks, Microsoft, Nuance, and Telefonica, into a number of panel discussions.

Among all the 187 submissions, only two works were awarded: Best Student Paper (2) and Best Paper (3), respectively. Additionally, the Aurora Pons-Porrata Award (1) was given to a living woman in recognition of her outstanding technical contribution to the field of pattern recognition. We hope that this Special Section including improved versions of all three awarded works will result in a fruitful section for the pattern recognition research community. Finally, we would like to thank all who made this possible, especially the authors, the reviewers, and the CIARP community at large.

This special Section is composed by the following three works:

- (1) Ivet Rafegas, Maria Vanrell, Luis A. Alexandre, Guillem Arias, "Understanding Trained CNNs by Indexing Neuron Selectivity"

This work proposes to describe the activity of individual neurons by their Neuron Feature visualization and quantify their inherent selectivity with two specific properties: an image feature (color); and an image label (class membership). This work was invited to this Special Section as a contribution of Maria Vanrell for the 2018 Aurora Pons-Porrata award for her outstanding technical contribution to the field of pattern recognition.

- (2) Roberto Valle, Jose M. Buenaposada, Luis Baumela, "Cascade of Encoder-Decoder CNNs with Learned Coordinates Regressor for Robust Facial Landmarks Detection"

This work investigates the use of a cascade of Neural Net regressors to increase the accuracy of the estimated facial landmarks. To this end the authors append two encoder-decoder CNNs with the same architecture but different learning strategies. This work received the CIARP2018 Best Student Paper Award for its novel approach and its highly competitive performance in a challenging task.

- (3) Ignacio A. Araya, Carlos Valle, Hector Allende, "A Multi-Scale Model Based on the Long Short-Term Memory for Day Ahead Hourly Wind Speed Forecasting"

This work proposes a Multi-scale Model Based on the Long Short-Term Memory for the day-ahead hourly wind speed forecasting task. The model uses dense layers to build subsequences of different timescales which are used as input for multiple Long Short-Term Memory Networks (LSTM), which model each temporal scale and integrate their information accordingly. This work received the CIARP2018 Best Paper Award for its novel learning approach to improve the long term dependencies in a real-world application.

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