





2020 IEEE INTERNATIONAL WORKSHOP ON

Metrology for Industry 4.0 & IoT

ROMA, ITALY | JUNE 3-5, 2020 **CNR** - NATIONAL RESEARCH COUNCIL HEADQUARTERS - Piazzale Aldo Moro

CALL FOR PAPERS for the Special Session on **RGB-D SENSORS AND APPLICATIONS FOR** INDUSTRY4.0 AND IOT

RGB-D sensors, combining both video- and depth-based sensing capabilities, can facilitate several applications, like the detection and understanding of human movements, actions and activities, and the interactions between humans and surrounding environment and objects. The joint availability of synchronized video signals and depth measurement information, from easy-touse and low-cost sensors, helps to improve the performance of automatic classification and recognition algorithms, supporting crucial processes such as the extraction of skeletal joints and human silhouette, with increased accuracy and reducing their dependence from shadows, light reflections and color similarity.

This Special Session aims to promote research contributions on RGB-D sensors as measurement devices applied in the context of Industry 4.0, focusing on the characterization and assessment of their performance in different operating conditions, especially related to challenging deployments "in the wild". How the quality and reliability of the measured data influence the performance of machine learning approaches is of utmost interest, as well as the investigation of new and innovative research ideas in which RGB-D sensors may provide a basic contribution. New theoretical approaches, experimental tests, and assessment in real-world use cases, are of interest.

MAIN TOPICS

Submissions are welcomed on (but not limited to):

- · RGB-D based measurements in Industry4.0
- · Vision and Depth system-based Robotics and Smart Manufacturing
- · Innovative calibration methods
- · Deep Learning based applications using RGB-D measurement data
- · RGB-D and wearable sensors fusion
- · RGB-D based contactless measurement systems
- · Metrological characterization of RGB- D sensors for human monitoring
- · RGB-D based applications for the monitoring of human-robot interactions
- Metrics, algorithms and signal processing techniques
- · Innovative applications of RGB-D sensors and practical solutions · Reliability, validity, and accuracy of RGB-D sensors and measuring systems

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