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### CALL FOR PAPERS: Special Session

## Advanced machine learning and image analysis for precision health

Advanced machine learning techniques have become today an essential component for the development of a wide range of decision-making applications. In the field of health, these techniques have shown a high potential in vision-based data analysis covering medical imaging in the broad sense as well as microscopic and endoscopic imaging.

Furthermore, the increasing development of acquisition technologies providing data with a high quality and the automation of their analysis process have led to the emergence of new type of applications named as “precision health”. Indeed, these new acquisition technologies combined with advanced machine learning techniques; notably deep learning paved the way to the building of new models of disease prevention, detection and treatment for both human and animal. However, the efficiency of these models depend strongly on the amount of labeled data, the design of deep architectures and the computational resource required for analysis.

In this context, the goal of this special session is to provide the most recent advances made in the development of learning-based algorithms for vision data analysis in the field of health.

The topics of interests include but are not limited to:

- Medical image analysis and their applications
- Microscopic image analysis for fighting against cancer
- Microscopic image analysis for drug screening
- Microscopic image analysis for parasitology
- Endoscopic video analysis for clinical diagnosis and pathology detection

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