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# Special Issue on Computer Vision & Biometrics in

# Healthcare Monitoring, Diagnosis and Treatment

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## SCOPE

In the last decades the healthcare industry has been supported by an ever increasing number of Computer Vision applications. One of the emerging fields in this scenario is biometric traits and related research that are typically aimed at security applications involving person authentication and identification. However, the increasing sensitiveness and image quality of the sensors available nowadays, along with the high accuracy and robustness achieved by the classification algorithms proposed nowadays, open new applicative horizons in the context of healthcare, to the aim of improving the supply of medical treatments in a more customized way, as well as computational tools for early diagnosis. The main implications of Computer Vision for medical usage are imaging analysis, predictive analysis and healthcare monitoring using biometrics in order to minimize false positives in the diagnostic process or control the treatment.

Indeed, biometrics such as face and gait, or other body-dynamics features, have the potential to be used for detecting and assess the evolution of symptoms related to many pathologies affecting body appearance and its dynamic signature. To this regard, the availability of powerful multi-sensors equipped mobile and wearable devices provides a ubiquitous platform to perform the continuous acquisition and monitoring of biometric information. In particular, deep learning approaches are expected to be particularly suitable in recognizing such kind of biometric patterns, enabling the early recognition and the staging of neuro-degenerative diseases.

The goal of this special issue is to solicit high quality contributions on: i) investigating the usage of computer vision and biometric signals in the context of healthcare applications - monitoring, diagnosis and treatment; ii) proposing novel methods and techniques, particularly by exploiting, but not limited to, deep learning approaches.

We look for unpublished and finished work that has not been submitted elsewhere in any form yet.

## TOPICS

- Biometric traits analysis for neuro-degenerative disease early detection and staging
- Symptoms-related biometric patterns detection and recognition
- Deep learning methods for biometrics-based early illness recognition

- Multimodal biometrics for psycho-physical condition assessment
- Detection and classifications of static and/or dynamic facial patterns associated to relevant clinical conditions
- Detection and classifications of body-dynamics patterns associated to relevant clinical conditions
- Multi-biometrics patient profiling
- Continuous biometrics monitoring for patient-centric healthcare
- Patient-specific health-signals based identification and monitoring
- IA based Medical Imaging

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## **IMPORTANT DATES:**

- Full Paper Submission: January 31, 2021
- Author Notification (including additional review step): April 15, 2021
- Final Manuscript: May 10, 2021

- Publication: June 2021 (tentative)

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