

6th International Conference on

WOUND CARE, DERMATOLOGY AND ORTHOPEDICS

December 05-06, 2022 | Dubai, UAE

Received date: 12.09.2022 | Accepted date: 15.09.2022 | Published date: 10-01-2023

AI-based body segmentation and risk analysis of pressure ulcer by evaluating the real-time pressure heat-map information

Ahmad Reza Heravi, Mohammad Mohammad Amini and Sajjad Aemmi

Sensomatt Lda, Portugal

The risk of getting pressure ulcer increases as the amount of pressure on a specific part of the body rises. Moreover, studies show that the duration of steady pressure on body organ plays an important role in inducing the pressure ulcer. In this paper, a real-time pressure heat map of sleeping volunteers is generated based on the collected data from a commercial sensor sheet and the trend of localized pressure variation is analyzed to find out the risky situation for pressure ulcer. The novelty of this study is to use body segmentation to find the risk of pressure ulcer. Based on a trained AI network, 13 segments of human body are detected from pressure heat map (for 10 standard back sleeping conditions and for non-standard ones) and the

maximum pressure and duration of this applied pressure in each segment is investigated. Based on clinical evidence, the limitation for duration is applied and proper signals are generated to show the risk of getting pressure ulcer in people using body pressure mapping system. The body segmentation is performed based on training by datasets containing pressure heat map and RGB images taken by a ceiling mounted camera. The results validation is performed based on datasets containing just the pressure heatmap to remove the need for images for evaluation of the process. This is the most compatible method to collect less information based on GDPR.

e: ar.heravi@sensomatt.com