

A Real-time Classification of Lying Bodies for Care Application of Elderly Patients

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Abstract : In this paper, we show a methodology for bodies classification in lying state using HOG descriptors and pressures sensors positioned in a matrix form (14 x 32 sensors) on the surface where bodies lie down. it will be done in real time. Our system is embedded in a care robot that can assist the elderly patient and medical staff around to get a better quality of life in and out of hospitals. Due to current technology a limited number of sensors is used, wich results in low-resolution data array, that will be used as image of 14 x 32 pixels. Our work considers the problem of human posture classification with few information (sensors), applying digital process to expand the original data of the sensors and so get more significant data for the classification, however, this is done with low-cost algorithms to ensure the real-time execution.

Keywords : real-time classification, sensors, robots, health care, elderly patients, artificial intelligence

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