

Human Fall Detection using CNN Algorithm

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Abstract: Globally, the problem of falling is a major health problem resulting in serious injuries and sometimes lead to death especially for elderly people. This project is based on Human Fall Detection using visual surveillance which could be used to detect such incidents at faster pace so help could be provided to elderly people. The system is designed using CNN Algorithm which is considered to be one of the best image classifiers and is being widely used in image and video processing. Firstly, It uses background subtraction using Improved GMM to find the foreground objects then contour based human template matching to categorize the human or nonhuman object. Through computing distance between top and mid center of rectangle covering human, if it is less than a certain threshold, then human fall is confirmed. Finally it checks if inactive pose of human is continued till 100 consecutive frames, then an alarm is generated to alert the people at home to provide treatment on time. According to prediction and analysis it shows that proposed system works efficiently and effectively in real-time and gives good fall detection accuracy.

Keywords: CNN Algorithm

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