

University Of Management and Technology Lahore

# Human Fall Detection

by

Reamsha Khan

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Supervisor : Syed Farooq ALi  
External supervisor : Dr Muhammad Mubashir Baig  
School of System and Technology

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# Abstract

School of System and Technology

Student MSSE

by [Reamsha Khan](#)

Fall-induced damages are conjoint in the old populace. Postponement or shortage of medical precaution after the incident of a collapse often causes damages, in some cases it became so intense that it may result in death of the victim. Hence falls are serious incidences for the aged person. For this problem automatic detection of fall on the spot can play a vital role in timely medication care which ultimately helps to decrease the medical complexity. Keeping in view the above stated crucial problem, in this paper we will define an efficient and effective system which can detect the fall centered on dataset of videos produced by means of numerous cameras. This research proposed an approach which performs better in terms of accuracy as related to the additional present approaches. It utilizes numerous descriptors of image or various features which are sustained to various training classifiers to recognize human falls.

Keywords: Human Fall detection, Static camera based, background and foreground, Health care, Security.

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# Chapter 1

## Introduction

The increasing rate of aged people has added up the uncertainty of unaided and unprovoked falls, all around the countries [1]. Specially for the seniors falls problem is causing physical harm, injuries and various health deterioration. These problems became more intensified when they are not able to call someone for timely aid and assistance and due to this reason in some cases it can cause even death.

The worst effect of fall may cause loss of life, and to mitigate such effects, therefore to control the risk there must be a trustworthy surveillance. This reason spurred the surveillance added techniques and technology for the in time detection of fall and retrospectively the fall health care industry. In the light of this the intelligent surveillance system development is indispensable; it is a system which is vision based and has the capacity to automatically determine and detect the fall incidence.

To cope with such crucial cases, various systems have been developed to detect the fall. Most systems contain buttons and sensors that can be worn and pressed if there should be an occurrence of emergency. Be that as it may, these strategies are ineffective and useless in circumstances somewhere the subject is unable to press the button due to unconsciousness or being far from the device.

In situations like this such devices are totally useless and the subject cannot access. Furthermore due to the failure of wearable devices, video controlling and monitoring systems entered the arena but these systems also severely failed due to their inaccuracy and unreliability to detect the fall. After the failure of wearable and video devices it became seem necessary that an automatic fall detection technology must be developed