



sensors

Title / Keyword		Journal	Sensors	Volume	
Author		Section	all	Issue	
Article Type	all	Special Issue	all	Page	
				Clear	Search



Sensors

Volume 14, Issue 7

Article Versions

- Abstract
- Full-Text HTML
- Full-Text PDF [2752 KB]
- Full-Text XML
- Article Versions Notes

Related Info

- Article Statistics
- PubMed/Medline
- Google Scholar
- Order Reprints

More by Authors

- [+] on DOAJ
- [+] on Google Scholar
- [+] on PubMed

Sensors 2014, 14(7), 12900-12936; doi:10.3390/s140712900

Open Access

Review

Automatic Fall Monitoring: A Review

Natthapon Pannurat¹ , Surapa Thiemjarus^{2,*} and Ekawit Nantajeewarawat¹

¹ Sirindhorn International Institute of Technology, Thammasat University, Pathumthani 12121, Thailand

² National Electronics and Computer Technology Center, Pathumthani 12120, Thailand

* Author to whom correspondence should be addressed.

Received: 8 April 2014 / Revised: 2 July 2014 / Accepted: 7 July 2014 / Published: 18 July 2014

(This article belongs to the Special Issue Biomedical Sensors and Systems)

View Full-Text | Download PDF [2752 KB, uploaded 18 July 2014] | Browse Figures

Abstract

Falls and fall-related injuries are major incidents, especially for elderly people, which often mark the onset of major deterioration of health. More than one-third of home-dwelling people aged 65 or above and two-thirds of those in residential care fall once or more each year. Reliable fall detection, as well as prevention, is an important research topic for monitoring elderly living alone in residential or hospital units. The aim of this study is to review the existing fall detection systems and some of the key research challenges faced by the research community in this field. We categorize the existing platforms into two groups: wearable and ambient devices; the classification methods are divided into rule-based and machine learning techniques. The relative merit and potential drawbacks are discussed, and we also outline some of the outstanding research challenges that emerging new platforms need to address.

Keywords: fall monitoring; fall detection; fall prevention; wireless sensors; wearable sensors

This is an open access article distributed under the Creative Commons Attribution License which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

Share & Cite This Article



Further Mendeley | CiteULike



Positioning
and
Navigation

Collection Editors

Dr. Kourosh Khoshelham
Prof. Dr. Sisi Zlatanova

Topical
Invitation to submit