# Pathway of Trends and Technologies in Fall Detection: A Systematic Review

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## Abstract

This paper systematically reviews publications, projects, and patents on fall prediction, detection, and prevention, categorizing related works by methodology, type, and achievements. It addresses the significant health risk of falls in the elderly and the need for timely fall detection and prevention to reduce costs and injuries.

## Key Findings

* - Systematically reviewed literature on fall prediction, detection, and prevention.
* - Categorized existing methods based on technology and performance.
* - Analyzed various fall detection approaches including wearable devices, camera-based systems, and ambient sensors.
* - Evaluated fall detection models using sensitivity, specificity, accuracy, and false positive rate.
* - Highlighted the challenges and limitations of current fall detection technologies, particularly those based on cell phones.
* - Explored the use of IoT and sensor-based approaches for improved fall detection efficiency.
* - Presented a comprehensive overview of trends and technologies in fall detection and prevention.