WALK DETECTION USING PULSE-DOPPLER RADAR

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ABSTRACT

Seniors increasingly live more independent lifestyles. This can come with certain safety hazards including deteriorating health, and major injuries from falling. A factor that has been researched and observed to have a relationship to fall risk is changes in walking speed. In an ongoing interdisciplinary research effort at the University of Missouri, one goal is to provide a non-intrusive methodology to perform fall risk assessment on a daily basis for elders. As mentioned, an integral component of fall risk assessment is the determination of walking speed. This thesis will cover methods of using pulse-Doppler radar to detect when walks occur in an elder’s apartment. In the future, these walks can then be used for gait analysis. The proposed method of finding walks was tested on data collected in a lab and in assisted living apartments at TigerPlace.