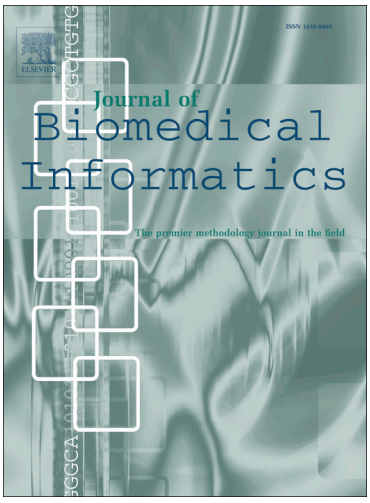

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Automatic assessment of functional health decline in older adults based on smart home data

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Abstract

In the context of an aging population, tools to help elderly to live independently must be developed. The goal of this paper is to evaluate the possibility of using unobtrusively collected activity-aware smart home behavioral data to automatically detect one of the most common consequences of aging: functional health decline. After gathering the longitudinal smart home data of 29 older adults for an average of $>$ 2 years, we automatically labeled the data with corresponding activity classes and extracted time-series statistics containing 10 behavioral features. Using this data, we created regression models to predict absolute and standardized functional health scores, as well as classification models to detect reliable ab-

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