

## Correlation Matrix for Automatic Identification of Meal-Taking Activity

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**Abstract :** Automatic ADL classification is a crucial part of ambient assisted living technologies. It allows to monitor the daily life of the elderly and to detect any changes in their behavior that could be related to health problem. But detection of ADLs is a challenge, especially because each person has his/her own rhythm for performing them. Therefore, we used a correlation matrix to extract custom rules that enable to detect ADLs, including eating activity. Data collected from 3 different individuals between 35 and 105 days allows the extraction of personalized eating patterns. The comparison of the results of the process of eating activity extracted from the correlation matrices with the declarative data collected during the survey shows an accuracy of 90%.

**Keywords :** elderly monitoring, ADL identification, matrix correlation, meal-taking activity

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