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| |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | | **Human Activity Recognition Using Smartphones Data Set**  *Download*: [Data Folder](http://archive.ics.uci.edu/ml/machine-learning-databases/00240/), [Data Set Description](http://archive.ics.uci.edu/ml/datasets/Human+Activity+Recognition+Using+Smartphones)  **Abstract**: Human Activity Recognition database built from the recordings of 30 subjects performing activities of daily living (ADL) while carrying a waist-mounted smartphone with embedded inertial sensors. | | | | | | | |  | | **Data Set Characteristics:** | Multivariate, Time-Series | **Number of Instances:** | 10299 | **Area:** | Computer | | **Attribute Characteristics:** | N/A | **Number of Attributes:** | 561 | **Date Donated** | 2012-12-10 | | **Associated Tasks:** | Classification, Clustering | **Missing Values?** | N/A | **Number of Web Hits:** | 15096 |   **Source:**  Jorge L. Reyes-Ortiz, Davide Anguita, Alessandro Ghio, Luca Oneto.  Smartlab - Non Linear Complex Systems Laboratory  DITEN - Università degli Studi di Genova, Genoa I-16145, Italy.  activityrecognition **'@'** smartlab.ws  www.smartlab.ws  **Data Set Information:**  The experiments have been carried out with a group of 30 volunteers within an age bracket of 19-48 years. Each person performed six activities (WALKING, WALKING\_UPSTAIRS, WALKING\_DOWNSTAIRS, SITTING, STANDING, LAYING) wearing a smartphone (Samsung Galaxy S II) on the waist. Using its embedded accelerometer and gyroscope, we captured 3-axial linear acceleration and 3-axial angular velocity at a constant rate of 50Hz. The experiments have been video-recorded to label the data manually. The obtained dataset has been randomly partitioned into two sets, where 70% of the volunteers was selected for generating the training data and 30% the test data.  The sensor signals (accelerometer and gyroscope) were pre-processed by applying noise filters and then sampled in fixed-width sliding windows of 2.56 sec and 50% overlap (128 readings/window). The sensor acceleration signal, which has gravitational and body motion components, was separated using a Butterworth low-pass filter into body acceleration and gravity. The gravitational force is assumed to have only low frequency components, therefore a filter with 0.3 Hz cutoff frequency was used. From each window, a vector of features was obtained by calculating variables from the time and frequency domain.  Check the README.txt file for further details about this dataset.  **Attribute Information:**  For each record in the dataset it is provided:  - Triaxial acceleration from the accelerometer (total acceleration) and the estimated body acceleration.  - Triaxial Angular velocity from the gyroscope.  - A 561-feature vector with time and frequency domain variables.  - Its activity label.  - An identifier of the subject who carried out the experiment.  **Relevant Papers:**  N/A  **Citation Request:**  [1] Davide Anguita, Alessandro Ghio, Luca Oneto, Xavier Parra and Jorge L. Reyes-Ortiz. Human Activity Recognition on Smartphones using a Multiclass Hardware-Friendly Support Vector Machine. International Workshop of Ambient Assisted Living (IWAAL 2012). Vitoria-Gasteiz, Spain. Dec 2012 | | | |

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