The experiments have been carried out with a group of 30 volunteers. Each person performed six activities (Walking, Walking upstairs, Walking downstairs, Sitting, Standing, Laying).

The features selected for this database come from the accelerometer and gyroscope 3-axial raw signals. These time domain signals were captured at a constant rate of 50 Hz. Then they were filtered using a median filter and a 3rd order low pass Butterworth filter with a corner frequency of 20 Hz to remove noise. Similarly, the acceleration signal was then separated into body and gravity acceleration signals using another low pass Butterworth filter with a corner frequency of 0.3 Hz.

"subject"
Subject (1 through 30)

"activity"
Walking - Walking
WalkingDownstairs - Walking downstairs
WalkingUpstairs - Walking upstairs
Sitting - Sitting
Standing - Standing
Laying - Laying

"TimeBodyAccMean-X"
Mean of time domain signals for body acceleration from accelerometer for X axis

"TimeBodyAccMean-Y"
Mean of time domain signals for body acceleration from accelerometer for Y axis

"TimeBodyAccMean-Z"
Mean of time domain signals for body acceleration from accelerometer for Z axis

"TimeGravityAccMean-X"
Mean of time domain signals for gravity acceleration from accelerometer for X axis

"TimeGravityAccMean-Y"
Mean of time domain signals for gravity acceleration from accelerometer for Y axis

"TimeGravityAccMean-Z"
Mean of time domain signals for gravity acceleration from accelerometer for Z axis

"TimeBodyAccJerkMean-X"
Mean of time domain Jerk signals for body acceleration from accelerometer for X axis

"TimeBodyAccJerkMean-Y"
Mean of time domain Jerk signals for body acceleration from accelerometer for Y axis

"TimeBodyAccJerkMean-Z"
Mean of time domain Jerk signals for body acceleration from accelerometer for Z axis

"TimeBodyGyroMean-X"
Mean of time domain signals for body acceleration from gyroscope for X axis

"TimeBodyGyroMean-Y"
Time domain signals for body acceleration from gyroscope for Y axis

"TimeBodyGyroMean-Z"
Mean of time domain signals for body acceleration from gyroscope for Z axis

"TimeBodyGyroJerkMean-X"
Mean of time domain Jerk signals for body acceleration from gyroscope for X axis

"TimeBodyGyroJerkMean-Y"
Mean of time domain Jerk signals for body acceleration from gyroscope for Y axis

"TimeBodyGyroJerkMean-Z"
Mean of time domain Jerk signals for body acceleration from gyroscope for Z axis

"TimeBodyAccMagMean"
Mean of time domain signals for body acceleration magnitude from accelerometer

"TimeGravityAccMagMean"
Mean of time domain signals for gravity acceleration magnitude from accelerometer

"TimeBodyAccJerkMagMean"
Mean of time domain Jerk signals for body acceleration magnitude from accelerometer

"TimeBodyGyroMagMean"
Mean of time domain signals for gravity acceleration magnitude from gyroscope

"TimeBodyGyroJerkMagMean"
Mean of time domain Jerk signals for gravity acceleration magnitude from gyroscope

"FreqBodyAccMean-X"
Mean of frequency domain signals for body acceleration from accelerometer for X axis

"FreqBodyAccMean-Y"
Mean of frequency domain signals for body acceleration from accelerometer for Y axis

"FreqBodyAccMean-Z"
Mean of frequency domain signals for body acceleration from accelerometer for Z axis

"FreqBodyAccMeanFreq-X"
Mean of frequency domain signals for body acceleration from accelerometer for X axis, weighted average of the frequency components

"FreqBodyAccMeanFreq-Y"
Mean of frequency domain signals for body acceleration from accelerometer for Y axis, weighted average of the frequency components

"FreqBodyAccMeanFreq-Z"
Mean of frequency domain signals for body acceleration from accelerometer for Z axis, weighted average of the frequency components

"FreqBodyAccJerkMean-X"
Mean of frequency domain Jerk signals for body acceleration from accelerometer for X axis

"FreqBodyAccJerkMean-Y"
Mean of frequency domain Jerk signals for body acceleration from accelerometer for Y axis

"FreqBodyAccJerkMean-Z"
Mean of frequency domain Jerk signals for body acceleration from accelerometer for Z axis

"FreqBodyAccJerkMeanFreq-X"
Mean of frequency domain Jerk signals for body acceleration from accelerometer for X axis, weighted average of the frequency components

"FreqBodyAccJerkMeanFreq-Y"
Mean of frequency domain Jerk signals for body acceleration from accelerometer for Y axis, weighted average of the frequency components

"FreqBodyAccJerkMeanFreq-Z"
Mean of frequency domain Jerk signals for body acceleration from accelerometer for Z axis, weighted average of the frequency components

"FreqBodyGyroMean-X"
Mean of frequency domain signals for body acceleration from gyroscope for X axis

"FreqBodyGyroMean-Y"
Mean of frequency domain signals for body acceleration from gyroscope for Y axis

"FreqBodyGyroMean-Z"
Mean of frequency domain signals for body acceleration from gyroscope for Z axis

"FreqBodyGyroMeanFreq-X"
Mean of frequency domain signals for body acceleration from gyroscope for X axis, weighted average of the frequency components

"FreqBodyGyroMeanFreq-Y"
Mean of frequency domain signals for body acceleration from gyroscope for Y axis, weighted average of the frequency components

"FreqBodyGyroMeanFreq-Z"
Mean of frequency domain signals for body acceleration from gyroscope for Z axis, weighted average of the frequency components

"FreqBodyAccMagMean"
Frequency domain signals for body acceleration magnitude from accelerometer

"FreqBodyAccMagMeanFreq"
Mean of frequency domain signals for body acceleration magnitude from accelerometer, weighted average of the frequency components

"FreqBodyAccJerkMagMean"
Mean of frequency domain Jerk signals for body acceleration magnitude from accelerometer

"FreqBodyAccJerkMagMeanFreq"
Mean of frequency domain Jerk signals for body acceleration magnitude from accelerometer, weighted average of the frequency components

"FreqBodyGyroMagMean"
Mean of frequency domain signals for body acceleration magnitude from gyroscope

"FreqBodyGyroMagMeanFreq"
Mean of frequency domain signals for body acceleration magnitude from gyroscope, weighted average of the frequency components

"FreqBodyGyroJerkMagMean"
Mean of frequency domain Jerk signals for body acceleration magnitude from gyroscope

"FreqBodyGyroJerkMagMeanFreq"
Mean of frequency domain Jerk signals for body acceleration magnitude from gyroscope, weighted average of the frequency components

"Angle-TimeBodyAccMeanGravity"
Mean of time domain signals for body gravity accelaration from accelerometer for angle between vectors

"Angle-TimeBodyAccJerkMeangravityMean."
Mean of time domain Jerk signals for body gravity accelaration from accelerometer for angle between vectors

"Angle-TimeBodyGyroMeanGravityMean"
Mean of time domain signals for body gravity accelaration from gyroscope for angle between vectors

"Angle-TimeBodyGyroJerkMeanGravityMean"
Mean of time domain Jerk signals for body gravity accelaration from gyroscope for angle between vectors

"Angle-XGravityMean"
Mean of gravity acceleration for angle between vectors on X axis

"Angle-YGravityMean"
Mean of gravity acceleration for angle between vectors on Y axis

"Angle-ZGravityMean"

Mean of gravity acceleration for angle between vectors on Z axis

"TimeBodyAccStd-X"
Standard deviation of time domain signals for body acceleration from accelerometer for X axis

"TimeBodyAccStd-Y"
Standard deviation of time domain signals for body acceleration from accelerometer for Y axis

"TimeBodyAccStd-Z"
Standard deviation of time domain signals for body acceleration from accelerometer for Z axis

"TimeGravityAccStd-X"
Standard deviation of time domain signals for gravity acceleration from accelerometer for X axis

"TimeGravityAccStd-Y"
Standard deviation of time domain signals for gravity acceleration from accelerometer for Y axis

"TimeGravityAccStd-Z"
Standard deviation of time domain signals for gravity acceleration from accelerometer for Z axis

"TimeBodyAccJerkStd-X"
Standard deviation of time domain Jerk signals for body acceleration from accelerometer for X axis

"TimeBodyAccJerkStd-Y"
Standard deviation of time domain Jerk signals for body acceleration from accelerometer for Y axis

"TimeBodyAccJerkStd-Z"
Standard deviation of time domain Jerk signals for body acceleration from accelerometer for Z axis

"TimeBodyGyroStd-X"
Standard deviation of time domain signals for body acceleration from gyroscope for X axis

"TimeBodyGyroStd-Y"
Standard deviation of time domain signals for body acceleration from gyroscope for Y axis

"TimeBodyGyroStd-Z"
Standard deviation of time domain signals for body acceleration from gyroscope for Z axis

"TimeBodyGyroJerkStd-X"
Standard deviation of time domain Jerk signals for body acceleration from gyroscope for X axis

"TimeBodyGyroJerkStd-Y"
Standard deviation of time domain Jerk signals for body acceleration from gyroscope for Y axis

"TimeBodyGyroJerkStd-Z"
Standard deviation of time domain Jerk signals for body acceleration from gyroscope for Z axis

"TimeBodyAccMagStd"
Standard deviation of time domain signals for body acceleration magnitude from accelerometer

"TimeGravityAccMagStd"
Standard deviation of time domain signals for grabity acceleration magnitude from accelerometer

"TimeBodyAccJerkMagStd"
Standard deviation of time domain Jerk signals for body acceleration magnitude from accelerometer

"TimeBodyGyroMagStd"
Standard deviation of time domain signals for body acceleration magnitude from gyroscope

"TimeBodyGyroJerkMagStd"
Standard deviation of time domain Jerk signals for body acceleration magnitude from gyroscope

"FreqBodyAccStd-X"
Standard deviation of frequency domain signals for body acceleration from accelerometer for X axis

"FreqBodyAccStd-Y"
Standard deviation of frequency domain signals for body acceleration from accelerometer for Y axis

"FreqBodyAccStd-Z"
Standard deviation of frequency domain signals for body acceleration from accelerometer for Z axis

"FreqBodyAccJerkStd-X"
Standard deviation of frequency domain Jerk signals for body acceleration from accelerometer for X axis

"FreqBodyAccJerkStd-Y"
Standard deviation of frequency domain Jerk signals for body acceleration from accelerometer for Y axis

"FreqBodyAccJerkStd-Z"
Standard deviation of frequency domain Jerk signals for body acceleration from accelerometer for Z axis

"FreqBodyGyroStd-X"
Standard deviation of frequency domain signals for body acceleration from gyroscope for X axis

"FreqBodyGyroStd-Y"
Standard deviation of frequency domain signals for body acceleration from gyroscope for Y axis

"FreqBodyGyroStd-Z"
Standard deviation of frequency domain signals for body acceleration from gyroscope for Z axis

"FreqBodyAccMagStd"
Standard deviation of frequency domain signals for body acceleration magnitude from accelerometer

"FreqBodyAccJerkMagStd"
Standard deviation of frequency domain Jerk signals for body acceleration magnitude from

accelerometer

"FreqBodyGyroMagStd"
Standard deviation of frequency domain signals for body acceleration magnitude from gyroscope

"FreqBodyGyroJerkMagStd"
Standard deviation of frequency domain Jerk signals for body acceleration magnitude from gyroscope