Activity description

WALKING

WALKING\_UPSTAIRS

WALKING\_DOWNSTAIRS

SITTING

STANDING

LAYING

**subject - 1**

Subject id number

1 - 30

**features**

The features selected for this database come from the accelerometer and gyroscope 3-axial raw signals tAcc-XYZ and tGyro-XYZ. These time domain signals (prefix 't' to denote time) 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 (tBodyAcc-XYZ and tGravityAcc-XYZ) using another low pass Butterworth filter with a corner frequency of 0.3 Hz.

Subsequently, the body linear acceleration and angular velocity were derived in time to obtain Jerk signals (tBodyAccJerk-XYZ and tBodyGyroJerk-XYZ). Also the magnitude of these three-dimensional signals were calculated using the Euclidean norm (tBodyAccMag, tGravityAccMag, tBodyAccJerkMag, tBodyGyroMag, tBodyGyroJerkMag).

Finally a Fast Fourier Transform (FFT) was applied to some of these signals producing fBodyAcc-XYZ, fBodyAccJerk-XYZ, fBodyGyro-XYZ, fBodyAccJerkMag, fBodyGyroMag, fBodyGyroJerkMag. (Note the 'f' to indicate frequency domain signals).

These signals were used to estimate variables of the feature vector for each pattern:  
'x, y, z' at the end is used to denote 3-axial signals in the X, Y and Z directions.

Value provided is the mean of each feature grouped by activity and subject.

tbodyaccmeanx

tbodyaccmeany

tbodyaccmeanz

tgravityaccmeanx

tgravityaccmeany

tgravityaccmeanz

tbodyaccjerkmeanx

tbodyaccjerkmeany

tbodyaccjerkmeanz

tbodygyromeanx

tbodygyromeany

tbodygyromeanz

tbodygyrojerkmeanx

tbodygyrojerkmeany

tbodygyrojerkmeanz

tbodyaccmagmean

tgravityaccmagmean

tbodyaccjerkmagmean

tbodygyromagmean

tbodygyrojerkmagmean

fbodyaccmeanx

fbodyaccmeany

fbodyaccmeanz

fbodyaccmeanfreqx

fbodyaccmeanfreqy

fbodyaccmeanfreqz

fbodyaccjerkmeanx

fbodyaccjerkmeany

fbodyaccjerkmeanz

fbodyaccjerkmeanfreqx

fbodyaccjerkmeanfreqy

fbodyaccjerkmeanfreqz

fbodygyromeanx

fbodygyromeany

fbodygyromeanz

fbodygyromeanfreqx

fbodygyromeanfreqy

fbodygyromeanfreqz

fbodyaccmagmean

fbodyaccmagmeanfreq

fbodybodyaccjerkmagmean

fbodybodyaccjerkmagmeanfreq

fbodybodygyromagmean

fbodybodygyromagmeanfreq

fbodybodygyrojerkmagmean

fbodybodygyrojerkmagmeanfreq

angletbodyaccmeangravity

angletbodyaccjerkmeangravitymean

angletbodygyromeangravitymean

angletbodygyrojerkmeangravitymean

anglexgravitymean

angleygravitymean

anglezgravitymean

tbodyaccstdx

tbodyaccstdy

tbodyaccstdz

tgravityaccstdx

tgravityaccstdy

tgravityaccstdz

tbodyaccjerkstdx

tbodyaccjerkstdy

tbodyaccjerkstdz

tbodygyrostdx

tbodygyrostdy

tbodygyrostdz

tbodygyrojerkstdx

tbodygyrojerkstdy

tbodygyrojerkstdz

tbodyaccmagstd

tgravityaccmagstd

tbodyaccjerkmagstd

tbodygyromagstd

tbodygyrojerkmagstd

fbodyaccstdx

fbodyaccstdy

fbodyaccstdz

fbodyaccjerkstdx

fbodyaccjerkstdy

fbodyaccjerkstdz

fbodygyrostdx

fbodygyrostdy

fbodygyrostdz

fbodyaccmagstd

fbodybodyaccjerkmagstd

fbodybodygyromagstd

fbodybodygyrojerkmagstd