

# CODEBOOK FOR LIST OF VARIABLES

## Variables



**Subject:** The experiments were carried out with a group of 30 volunteers between the ages of 19-48 years.

Subject

**Activity:** Each person performed six activities (Walking, Walking Upstairs, Walking Downstairs, Sitting, Standing, Laying).

Activity

**Time Domain :** Raw signals captured from the accelerometer and gyroscope captured at a constant rate of 50Hz.

*Accelerometer Sensor Signal: Measures triaxial acceleration and contains both gravitational and body motion components; separated using a Butterworth low-pass filter. Units in g's (gravity of earth -> 9.80665 m/seg2).*

## Body Acceleration

**Mean Values of 3-Axial Measurements (X,Y,Z)**

tBA\_mean\_X

tBA\_mean\_Y

tBA\_mean\_Z

**Standard Deviation Values of 3-Axial Measurements (X,Y,Z)**

tBA\_std\_X

tBA\_std\_Y

tBA\_std\_Z

**Magnitude of Acceleration Signals using Euclidean norm.**

**Mean Values**

tBAM\_mean

**Standard Deviation Values**

tBAM\_std

**Jerk (Fx of Linear Acceleration & Angular Velocity derived in time)**

**Mean Values of 3-Axial Measurements (X,Y,Z)**

tBAJ\_mean\_X

tBAJ\_mean\_Y

tBAJ\_mean\_Z

**Standard Deviation Values of 3-Axial Measurements (X,Y,Z)**

tBAJ\_std\_X

tBAJ\_std\_Y

tBAJ\_std\_Z

Magnitude of Jerk Signals using Euclidean norm.

**Mean Values**

tBAJM\_mean

**Standard Deviation Values**

tBAJM\_std

## Gravity Acceleration

**Mean Values of 3-Axial Measurements (X,Y,Z)**

tGA\_mean\_X

tGA\_mean\_Y

tGA\_mean\_Z

**Standard Deviation Values of 3-Axial Measurements (X,Y,Z)**

tGA\_std\_X

tGA\_std\_Y

tGA\_std\_Z

Magnitude of Acceleration Signals using Euclidean norm.

**Mean Values**

tGAM\_mean

**Standard Deviation Values**

tGAM\_std

*Gyroscope Sensor Signal: Measures triaxial angular velocity. Units in radians/sec.*

## Body Acceleration

**Mean Values of 3-Axial Measurements (X,Y,Z)**

tBG\_mean\_X

tBG\_mean\_Y

tBG\_mean\_Z

**Standard Deviation Values of 3-Axial Measurements (X,Y,Z)**

tBG\_std\_X

tBG\_std\_Y

tBG\_std\_Z

Magnitude of Angular Velocity Signals using Euclidean norm.

**Mean Values**

tBGM\_mean

**Standard Deviation Values**

tBGM\_std

Jerk (Fx of Linear Acceleration & Angular Velocity derived in time)

**Mean Values of 3-Axial Measurements (X,Y,Z)**

tBGJ\_mean\_X

tBGJ\_mean\_Y

tBGJ\_mean\_Z

**Standard Deviation Values of 3-Axial Measurements (X,Y,Z)**

tBGJ\_std\_X

tBGJ\_std\_Y

tBGJ\_std\_Z

Magnitude of Jerk Signals using Euclidean norm.

**Mean Values**

tBGJM\_mean

**Standard Deviation Values**

tBGJM\_std

**Frequency Domain: Fast Fourier Transform (FFT) applied to raw signals.**

*Accelerometer Sensor Signal: Measures triaxial acceleration and contains both gravitational and body motion components; separated using a Butterworth low-pass filter. Units in g's (gravity of earth -> 9.80665 m/seg2).*

**Body Acceleration**

**Mean Values of 3-Axial Measurements (X,Y,Z)**

fBA\_mean\_X

fBA\_mean\_Y

fBA\_mean\_Z

**Standard Deviation Values of 3-Axial Measurements (X,Y,Z)**

fBA\_std\_X

fBA\_std\_Y

fBA\_std\_Z

Magnitude of Acceleration Signals using Euclidean norm.

**Mean Values**

fBAM\_mean

**Standard Deviation Values**

fBAM\_std

Jerk (Fx of Linear Acceleration & Angular Velocity derived in time)

**Mean Values of 3-Axial Measurements (X,Y,Z)**

fBAJ\_mean\_X

fBAJ\_mean\_Y

fBAJ\_mean\_Z

**Standard Deviation Values of 3-Axial Measurements (X,Y,Z)**

fBAJ\_std\_X

fBAJ\_std\_Y

fBAJ\_std\_Z

Magnitude of Jerk Signals using Euclidean norm.

**Mean Values**

fBAJM\_mean

**Standard Deviation Values**

fBAJM\_std

*Gyroscope Sensor Signal: Measures triaxial angular velocity. Units in radians/sec.*

## Body Acceleration

**Mean Values of 3-Axial Measurements (X,Y,Z)**

fBG\_mean\_X

fBG\_mean\_Y

fBG\_mean\_Z

**Standard Deviation Values of 3-Axial Measurements (X,Y,Z)**

fBG\_std\_X

fBG\_std\_Y

fBG\_std\_Z

Magnitude of Angular Velocity Signals using Euclidean norm.

**Mean Values**

fBGM\_mean

Standard Deviation Values

fBGM\_std

Magnitude of Jerk Signals using Euclidean norm.

**Mean Values**

fBGJM\_mean

**Standard Deviation Values**

fBGJM\_std