Code Book

Raw data collection

**Collection**

Raw data were obtained from UCI Machine Learning repository.

The data linked to represents data collected from the accelerometers and gyrometers from the Samsung Galaxy S smartphone. A full description is available at the site where the data was obtained:

<http://archive.ics.uci.edu/ml/datasets/Human+Activity+Recognition+Using+Smartphones>

Here are the data used for this project:

<https://d396qusza40orc.cloudfront.net/getdata%2Fprojectfiles%2FUCI%20HAR%20Dataset.zip>

The data used for this project represents experimental data from 30 subjects with an age between 19 and 48. There were six activities monitored via a smartphone worn by the subjects. Data obtained was classified and split into a training set representing 70% of the captured data and the remaining 30% was captured for test.

**Signals**

The signals captured were from an accelerometer and a gyroscope integral to the cell phone wron by the subject.

The set of variables that were estimated from these signals are:

$ subject : int

activity : Factor w/ 6 levels

timeBodyAccelerometer-mean()-X : num

timeBodyAccelerometer-mean()-Y : num

timeBodyAccelerometer-mean()-Z : num

timeBodyAccelerometer-std()-X : num

timeBodyAccelerometer-std()-Y : num

timeBodyAccelerometer-std()-Z : num

timeGravityAccelerometer-mean()-X : num

timeGravityAccelerometer-mean()-Y : num

timeGravityAccelerometer-mean()-Z : num

timeGravityAccelerometer-std()-X : num

timeGravityAccelerometer-std()-Y : num

timeGravityAccelerometer-std()-Z : num

timeBodyAccelerometerJerk-mean()-X : num

timeBodyAccelerometerJerk-mean()-Y : num

timeBodyAccelerometerJerk-mean()-Z : num

timeBodyAccelerometerJerk-std()-X : num

timeBodyAccelerometerJerk-std()-Y : num

timeBodyAccelerometerJerk-std()-Z : num

timeBodyGyro-mean()-X : num

timeBodyGyro-mean()-Y : num

timeBodyGyro-mean()-Z : num

timeBodyGyro-std()-X : num

timeBodyGyro-std()-Y : num

timeBodyGyro-std()-Z : num

timeBodyGyroJerk-mean()-X : num

timeBodyGyroJerk-mean()-Y : num

timeBodyGyroJerk-mean()-Z : num

timeBodyGyroJerk-std()-X : num

timeBodyGyroJerk-std()-Y : num

timeBodyGyroJerk-std()-Z : num

timeBodyAccelerometerMagnitude-mean() : num

timeBodyAccelerometerMagnitude-std() : num

timeGravityAccelerometerMagnitude-mean() : num

timeGravityAccelerometerMagnitude-std() : num

timeBodyAccelerometerJerkMagnitude-mean() : num

timeBodyAccelerometerJerkMagnitude-std() : num

timeBodyGyroMagnitude-mean() : num

timeBodyGyroMagnitude-std() : num

timeBodyGyroJerkMagnitude-mean() : num

timeBodyGyroJerkMagnitude-std() : num

frequencyBodyAccelerometer-mean()-X : num

frequencyBodyAccelerometer-mean()-Y : num

frequencyBodyAccelerometer-mean()-Z : num

frequencyBodyAccelerometer-std()-X : num

frequencyBodyAccelerometer-std()-Y : num

frequencyBodyAccelerometer-std()-Z : num

frequencyBodyAccelerometerJerk-mean()-X : num

frequencyBodyAccelerometerJerk-mean()-Y : num

frequencyBodyAccelerometerJerk-mean()-Z : num

frequencyBodyAccelerometerJerk-std()-X : num

frequencyBodyAccelerometerJerk-std()-Y : num

frequencyBodyAccelerometerJerk-std()-Z : num

frequencyBodyGyro-mean()-X : num

frequencyBodyGyro-mean()-Y : num

frequencyBodyGyro-mean()-Z : num

frequencyBodyGyro-std()-X : num

frequencyBodyGyro-std()-Y : num

frequencyBodyGyro-std()-Z : num

frequencyBodyAccelerometerMagnitude-mean() : num

frequencyBodyAccelerometerMagnitude-std() : num

frequencyBodyAccelerometerJerkMagnitude-mean(): num

frequencyBodyAccelerometerJerkMagnitude-std() : num

frequencyBodyGyroMagnitude-mean() : num

frequencyBodyGyroMagnitude-std() : num

frequencyBodyGyroJerkMagnitude-mean() : num

frequencyBodyGyroJerkMagnitude-std() : num

Numeric values were normalized and are presented between -1 and 1 with the exception for the subject number which is a positive integer.

Data transformation

The raw data sets are processed with run\_analisys.R script to create a tidy data set with output file provided.