**Human Activity Recognition Using Smartphones**

Created by Xin Yang ([xinyang3721@gmail.com](mailto:xinyang3721@gmail.com)) at Oct. 15, 2016

Codebook for merged data (file ”merged\_data.csv”)

subject\_id:

ID number of the activity subject

Column between “tBodyAcc-mean()-X” and “fBodyBodyGyroJerkMag-meanFreq()”:

tBodyAcc-mean()-X: mean value of body acceleration measurements in x direction

tBodyAcc-mean()-Y: mean value of body acceleration measurements in y direction

tBodyAcc-mean()-Z: mean value of body acceleration measurements in z direction

tBodyAcc-std()-X: standard deviation of body acceleration measurements in x direction

tBodyAcc-std()-Y: standard deviation of body acceleration measurements in y direction

tBodyAcc-std()-Z: standard deviation of body acceleration measurements in z direction

tGravityAcc-mean()-X: mean value of gravity acceleration measurements in x direction

tGravityAcc-mean()-Y: mean value of gravity acceleration measurements in y direction

tGravityAcc-mean()-Z: mean value of gravity acceleration measurements in z direction

tGravityAcc-std()-X: standard deviation of gravity acceleration measurements in x direction

tGravityAcc-std()-Y: standard deviation of gravity acceleration measurements in y direction

tGravityAcc-std()-Z: standard deviation of gravity acceleration measurements in z direction

tBodyAccJerk-mean()-X: mean value of jerk signal of body acceleration measurements in x direction

tBodyAccJerk-mean()-Y: mean value of jerk signal of body acceleration measurements in y direction

tBodyAccJerk-mean()-Z: mean value of jerk signal of body acceleration measurements in z direction

tBodyAccJerk-std()-X: standard deviation of jerk signal of body acceleration measurements in x direction

tBodyAccJerk-std()-Y: standard deviation of jerk signal of body acceleration measurements in y direction

tBodyAccJerk-std()-Z: standard deviation of jerk signal of body acceleration measurements in z direction

tBodyGyro-mean()-X: mean value of body angular velocity in x direction

tBodyGyro-mean()-Y: mean value of body angular velocity in y direction

tBodyGyro-mean()-Z: mean value of body angular velocity in z direction

tBodyGyro-std()-X: standard deviation of body angular velocity in x direction

tBodyGyro-std()-Y: standard deviation of body angular velocity in y direction

tBodyGyro-std()-Z: standard deviation of body angular velocity in z direction

tBodyGyroJerk-mean()-X: mean value of jerk signal of angular velocity measurements in x direction

tBodyGyroJerk-mean()-Y: mean value of jerk signal of angular velocity measurements in y direction

tBodyGyroJerk-mean()-Z: mean value of jerk signal of angular velocity measurements in z direction

tBodyGyroJerk-std()-X: standard deviation of jerk signal of angular velocity measurements in x direction

tBodyGyroJerk-std()-Y: standard deviation of jerk signal of angular velocity measurements in y direction

tBodyGyroJerk-std()-Z: standard deviation of jerk signal of angular velocity measurements in z direction

tBodyAccMag-mean(): mean value on magnitude of body linear acceleration

tBodyAccMag-std(): standard deviation on magnitude of body linear acceleration

tGravityAccMag-mean(): mean value on magnitude of gravity acceleration

tGravityAccMag-std(): standard deviation on magnitude of gravity acceleration

tBodyAccJerkMag-mean(): mean value on magnitude of jerk signal body acceleration

tBodyAccJerkMag-std(): standard deviation on magnitude of jerk signal body acceleration

tBodyGyroMag-mean(): mean value on magnitude of angular velocity

tBodyGyroMag-std(): standard deviation on magnitude of angular velocity

tBodyGyroJerkMag-mean(): mean value on magnitude of jerk signal of angular velocity

tBodyGyroJerkMag-std(): standard deviation value on magnitude of jerk signal of angular velocity

fBodyAcc-mean()-X: mean value of body acceleration measurements in x direction in frequency domain

fBodyAcc-mean()-Y: mean value of body acceleration measurements in y direction in frequency domain

fBodyAcc-mean()-Z: mean value of body acceleration measurements in z direction in frequency domain

fBodyAcc-std()-X: standard deviation of body acceleration measurements in x direction in frequency domain

fBodyAcc-std()-Y: standard deviation of body acceleration measurements in y direction in frequency domain

fBodyAcc-std()-Z: standard deviation of body acceleration measurements in z direction in frequency domain

fBodyAccJerk-mean()-X: mean of jerk signal of body acceleration measurements in x direction in frequency domain

fBodyAccJerk-mean()-Y: mean of jerk signal of body acceleration measurements in y direction in frequency domain

fBodyAccJerk-mean()-Z: mean of jerk signal of body acceleration measurements in z direction in frequency domain

fBodyAccJerk-std()-X: standard deviation of jerk signal of body acceleration measurements in x direction in frequency domain

fBodyAccJerk-std()-Y: standard deviation of jerk signal of body acceleration measurements in y direction in frequency domain

fBodyAccJerk-std()-Z: standard deviation of jerk signal of body acceleration measurements in z direction in frequency domain

fBodyGyro-mean()-X: mean value of body angular velocity in x direction in frequency domain

fBodyGyro-mean()-Y: mean value of body angular velocity in y direction in frequency domain

fBodyGyro-mean()-Z: mean value of body angular velocity in z direction in frequency domain

fBodyGyro-std()-X: standard deviation of body angular velocity in x direction in frequency domain

fBodyGyro-std()-Y: standard deviation of body angular velocity in y direction in frequency domain

fBodyGyro-std()-Z: standard deviation of body angular velocity in z direction in frequency domain

fBodyAccMag-mean():mean value on magnitude of body linear acceleration in frequency domain

fBodyAccMag-std():standard deviation on magnitude of body linear acceleration in frequency domain

fBodyBodyAccJerkMag-mean():mean value on magnitude of jerk signal of angular velocity in frequency domain

fBodyBodyAccJerkMag-std():standard deviation on magnitude of jerk signal of angular velocity in frequency domain

fBodyBodyGyroMag-mean():mean value on magnitude of jerk signal of angular velocity in frequency domain

fBodyBodyGyroMag-std(): standard deviation on magnitude of jerk signal of angular velocity in frequency domain

fBodyBodyGyroJerkMag-mean():mean value on magnitude of jerk signal of angular velocity in frequency domain

fBodyBodyGyroJerkMag-std(): standard deviation on magnitude of jerk signal of angular velocity in frequency domain

Activity:

1 WALKING

2 WALKING\_UPSTAIRS

3 WALKING\_DOWNSTAIRS

4 SITTING

5 STANDING

6 LAYING

Codebook for merged data (file ”mean\_data.csv”)

subject\_id:

ID number of the activity subject

Column between “tBodyAcc-mean()-X\_mean” and “fBodyBodyGyroJerkMag-meanFreq()\_mean”:

The mean value for each variable in the previous list in the same order.

Activity:

1 WALKING

2 WALKING\_UPSTAIRS

3 WALKING\_DOWNSTAIRS

4 SITTING

5 STANDING

6 LAYING