**Data Dictionary – Human activity recognition using Smartphone Data Set**

**Subject**

Subject Id

Integer

**Activity**

Type of activity

Factor

NOTE:

* All the features below are normalized and bound within [-1, 1].
* Units for the acceleration (Body and Gravity) are in standard gravity unit ‘g’ (g = 9.80665 m/seg^2)
* The Gyroscope units are rad/seg

**TimeBodyAccelerometerMean-X**

Mean value in the time domain signal for Body acceleration along X-axis

Standard gravity unit ‘g’ (g = 9.80665 m/seg^2

**TimeBodyAccelerometerMean-Y**

Mean value in the time domain signal for Body acceleration along Y-axis

Standard gravity unit ‘g’ (g = 9.80665 m/seg^2)

**TimeBodyAccelerometerMean-Z**

Mean value in the time domain signal for Body acceleration along Z-axis

Standard gravity unit ‘g’ (g = 9.80665 m/seg^2)

**TimeBodyAccelerometerSTD-X**

Standard deviation value in the time domain signal for Body acceleration along X-axis

Standard gravity unit ‘g’ (g = 9.80665 m/seg^2)

**TimeBodyAccelerometerSTD-Y**

Standard deviation value in the time domain signal for Body acceleration along Y-axis

Standard gravity unit ‘g’ (g = 9.80665 m/seg^2)

**TimeBodyAccelerometerSTD-Z**

Standard deviation value in the time domain signal for Body acceleration along Z-axis

Standard gravity unit ‘g’ (g = 9.80665 m/seg^2)

**TimeGravityAccelerometerMean-X**

Mean value in the time domain signal for Gravity acceleration along X-axis

Standard gravity unit ‘g’ (g = 9.80665 m/seg^2)

**TimeGravityAccelerometerMean-Y**

Mean value in the time domain signal for Gravity acceleration along Y-axis

Standard gravity unit ‘g’ (g = 9.80665 m/seg^2)

**TimeGravityAccelerometerMean-Z**

Mean value in the time domain signal for Gravity acceleration along Z-axis

Standard gravity unit ‘g’ (g = 9.80665 m/seg^2)

**TimeGravityAccelerometerSTD-X**

Standard deviation value in the time domain signal for Gravity acceleration along X-axis

Standard gravity unit ‘g’ (g = 9.80665 m/seg^2)

**TimeGravityAccelerometerSTD-Y**

Standard deviation value in the time domain signal for Gravity acceleration along Y-axis

Standard gravity unit ‘g’ (g = 9.80665 m/seg^2)

**TimeGravityAccelerometerSTD-Z**

Standard deviation value in the time domain signal for Gravity acceleration along Z-axis

Standard gravity unit ‘g’ (g = 9.80665 m/seg^2)

**TimeBodyAccelerometerJerkMean-X**

Mean Jerk signal in the time domain for body acceleration along X-axis

Standard gravity unit ‘g’ (g = 9.80665 m/seg^2)

**TimeBodyAccelerometerJerkMean-Y**

Mean Jerk signal in the time domain for body acceleration along Y-axis

Standard gravity unit ‘g’ (g = 9.80665 m/seg^2)

**TimeBodyAccelerometerJerkMean-Z**

Mean Jerk signal in the time domain for body acceleration along Z-axis

Standard gravity unit ‘g’ (g = 9.80665 m/seg^2)

**TimeBodyAccelerometerJerkSTD-X**

Standard deviation of Jerk signal in the time domain for body acceleration along X-axis

Standard gravity unit ‘g’ (g = 9.80665 m/seg^2)

**TimeBodyAccelerometerJerkSTD-Y**

Standard deviation of Jerk signal in the time domain for body acceleration along Y-axis

Standard gravity unit ‘g’ (g = 9.80665 m/seg^2)

**TimeBodyAccelerometerJerkSTD-Z**

Standard deviation of Jerk signal in the time domain for body acceleration along Z-axis

Standard gravity unit ‘g’ (g = 9.80665 m/seg^2)

**TimeBodyGyroscopeMean-X**

Mean of the Gyroscope signal in the time domain for body acceleration along X-axis

rad/seg

**TimeBodyGyroscopeMean-Y**

Mean of the Gyroscope signal in the time domain for body acceleration along Y-axis

rad/seg

**TimeBodyGyroscopeMean-Z**

Mean of the Gyroscope signal in the time domain for body acceleration along Z-axis

rad/seg

**TimeBodyGyroscopeSTD-X**

Standard deviation of Gyroscope signal in the time domain for body acceleration along X-axis

rad/seg

**TimeBodyGyroscopeSTD-Y**

Standard deviation of Gyroscope signal in the time domain for body acceleration along Y-axis

rad/seg

**TimeBodyGyroscopeSTD-Z**

Standard deviation of Gyroscope signal in the time domain for body acceleration along Z-axis

rad/seg

**TimeBodyGyroscopeJerkMean-X**

Mean of the Gyroscope signal in the time domain for body Jerk along X-axis

rad/seg

**TimeBodyGyroscopeJerkMean-Y**

Mean of the Gyroscope signal in the time domain for body Jerk along Y-axis

rad/seg

**TimeBodyGyroscopeJerkMean-Z**

Mean of the Gyroscope signal in the time domain for body Jerk along Z-axis

rad/seg

**TimeBodyGyroscopeJerkSTD-X**

Standard deviation of the Gyroscope signal in the time domain for body Jerk along X-axis

rad/seg

**TimeBodyGyroscopeJerkSTD-Y**

Standard deviation of the Gyroscope signal in the time domain for body Jerk along Y-axis

rad/seg

**TimeBodyGyroscopeJerkSTD-Z**

Standard deviation of the Gyroscope signal in the time domain for body Jerk along Z-axis

rad/seg

**TimeBodyAccelerometerMagnitudeMean**

Mean Magnitude of the Accelerometer signal in the time domain for body

Standard gravity unit ‘g’ (g = 9.80665 m/seg^2)

**TimeBodyAccelerometerMagnitudeSTD**

Standard deviation Magnitude of the Accelerometer signal in the time domain for body

Standard gravity unit ‘g’ (g = 9.80665 m/seg^2)

**TimeGravityAccelerometerMagnitudeMean**

Mean Magnitude of the Accelerometer signal in the time domain for Gravity

Standard gravity unit ‘g’ (g = 9.80665 m/seg^2)

**TimeGravityAccelerometerMagnitudeSTD**

Standard deviation Magnitude of the Accelerometer signal in the time domain for Gravity

Standard gravity unit ‘g’ (g = 9.80665 m/seg^2)

**TimeBodyAccelerometerJerkMagnitudeMean**

Mean Magnitude of the Accelerometer signal in the time domain for Body Jerk

Standard gravity unit ‘g’ (g = 9.80665 m/seg^2)

**TimeBodyAccelerometerJerkMagnitudeSTD**

Standard deviation Magnitude of the Accelerometer signal in the time domain for Body Jerk

Standard gravity unit ‘g’ (g = 9.80665 m/seg^2)

**TimeBodyGyroscopeMagnitudeMean**

Mean Magnitude of the Gyroscope signal in the time domain for Body

rad/seg

**TimeBodyGyroscopeMagnitudeSTD**

Standard deviation Magnitude of the Gyroscope signal in the time domain for Body

rad/seg

**TimeBodyGyroscopeJerkMagnitudeMean**

Mean Magnitude of the Gyroscope signal in the time domain for Body Jerk

rad/seg

**TimeBodyGyroscopeJerkMagnitudeSTD**

Standard deviation Magnitude of the Gyroscope signal in the time domain for Body Jerk

rad/seg

**FrequencyBodyAccelerometerMean-X**

Mean value in the frequency domain signal for Body acceleration along X-axis

Standard gravity unit ‘g’ (g = 9.80665 m/seg^2)

**FrequencyBodyAccelerometerMean-Y**

Mean value in the frequency domain signal for Body acceleration along Y-axis

Standard gravity unit ‘g’ (g = 9.80665 m/seg^2)

**FrequencyBodyAccelerometerMean-Z**

Mean value in the frequency domain signal for Body acceleration along Z-axis

Standard gravity unit ‘g’ (g = 9.80665 m/seg^2)

**FrequencyBodyAccelerometerSTD-X**

Standard deviation in the frequency domain signal for Body acceleration along X-axis

Standard gravity unit ‘g’ (g = 9.80665 m/seg^2)

**FrequencyBodyAccelerometerSTD-Y**

Standard deviation in the frequency domain signal for Body acceleration along Y-axis

Standard gravity unit ‘g’ (g = 9.80665 m/seg^2)

**FrequencyBodyAccelerometerSTD-Z**

Standard deviation in the frequency domain signal for Body acceleration along Z-axis

Standard gravity unit ‘g’ (g = 9.80665 m/seg^2)

**FrequencyBodyAccelerometerMeanFrequency-X**

Mean of the frequency domain signal for Body acceleration along X-axis

Standard gravity unit ‘g’ (g = 9.80665 m/seg^2)

**FrequencyBodyAccelerometerMeanFrequency-Y**

Mean of the frequency domain signal for Body acceleration along Y-axis

Standard gravity unit ‘g’ (g = 9.80665 m/seg^2)

**FrequencyBodyAccelerometerMeanFrequency-Z**

Mean of the frequency domain signal for Body acceleration along Z-axis

Standard gravity unit ‘g’ (g = 9.80665 m/seg^2)

**FrequencyBodyAccelerometerJerkMean-X**

Mean of the frequency domain accelerometer signal for Body Jerk along X-axis

Standard gravity unit ‘g’ (g = 9.80665 m/seg^2)

**FrequencyBodyAccelerometerJerkMean-Y**

Mean of the frequency domain accelerometer signal for Body Jerk along Y-axis

Standard gravity unit ‘g’ (g = 9.80665 m/seg^2)

**FrequencyBodyAccelerometerJerkMean-Z**

Mean of the frequency domain accelerometer signal for Body Jerk along Z-axis

Standard gravity unit ‘g’ (g = 9.80665 m/seg^2)

**FrequencyBodyAccelerometerJerkSTD-X**

Standard deviation of the frequency domain accelerometer signal for Body Jerk along X-axis

Standard gravity unit ‘g’ (g = 9.80665 m/seg^2)

**FrequencyBodyAccelerometerJerkSTD-Y**

Standard deviation of the frequency domain accelerometer signal for Body Jerk along Y-axis

Standard gravity unit ‘g’ (g = 9.80665 m/seg^2)

**FrequencyBodyAccelerometerJerkSTD-Z**

Standard deviation of the frequency domain accelerometer signal for Body Jerk along Z-axis

Standard gravity unit ‘g’ (g = 9.80665 m/seg^2)

**FrequencyBodyAccelerometerJerkMeanFrequency-X**

Mean of the frequency domain accelerometer signal for Body Jerk time along X-axis

Standard gravity unit ‘g’ (g = 9.80665 m/seg^2)

**FrequencyBodyAccelerometerJerkMeanFrequency-Y**

Mean of the frequency domain accelerometer signal for Body Jerk time along Y-axis

Standard gravity unit ‘g’ (g = 9.80665 m/seg^2)

**FrequencyBodyAccelerometerJerkMeanFrequency-Z**

Mean of the frequency domain accelerometer signal for Body Jerk time along Z-axis

Standard gravity unit ‘g’ (g = 9.80665 m/seg^2)

**FrequencyBodyGyroscopeMean-X**

Mean in the frequency domain signal for Gyroscope Body signal along X-axis

rad/seg

**FrequencyBodyGyroscopeMean-Y**

Mean in the frequency domain signal for Gyroscope Body signal along Y-axis

rad/seg

**FrequencyBodyGyroscopeMean-Z**

Mean in the frequency domain signal for Gyroscope Body signal along Z-axis

rad/seg

**FrequencyBodyGyroscopeSTD-X**

Standard deviation in the frequency domain signal for Gyroscope Body signal along X-axis

rad/seg

**FrequencyBodyGyroscopeSTD-Y**

Standard deviation in the frequency domain signal for Gyroscope Body signal along Y-axis

rad/seg

**FrequencyBodyGyroscopeSTD-Z**

Standard deviation in the frequency domain signal for Gyroscope Body signal along Z-axis

rad/seg

**FrequencyBodyGyroscopeMeanFrequency-X**

Mean in the frequency domain signal for Gyroscope Body time signal along X-axis

rad/seg

**FrequencyBodyGyroscopeMeanFrequency-Y**

Mean in the frequency domain signal for Gyroscope Body time signal along Y-axis

rad/seg

**FrequencyBodyGyroscopeMeanFrequency-Z**

Mean in the frequency domain signal for Gyroscope Body time signal along Z-axis

rad/seg

**FrequencyBodyAccelerometerMagnitudeMean**

Mean Magnitude of the frequency domain accelerometer signal for Body

Standard gravity unit ‘g’ (g = 9.80665 m/seg^2)

**FrequencyBodyAccelerometerMagnitudeSTD**

Standard deviation of Magnitude of the frequency domain accelerometer signal for Body

Standard gravity unit ‘g’ (g = 9.80665 m/seg^2)

**FrequencyBodyAccelerometerMagnitudeMeanFrequency**

Mean frequency Magnitude of the frequency domain accelerometer signal for Body

Standard gravity unit ‘g’ (g = 9.80665 m/seg^2)

**FrequencyBodyAccelerometerJerkMagnitudeMean**

Mean Magnitude of the frequency domain accelerometer signal for Body Jerk

Standard gravity unit ‘g’ (g = 9.80665 m/seg^2)

**FrequencyBodyAccelerometerJerkMagnitudeSTD**

Standard deviation of Magnitude of the frequency domain accelerometer signal for Body Jerk

Standard gravity unit ‘g’ (g = 9.80665 m/seg^2)

**FrequencyBodyAccelerometerJerkMagnitudeMeanFrequency**

Mean frequency Magnitude of the frequency domain accelerometer signal for Body Jerk

Standard gravity unit ‘g’ (g = 9.80665 m/seg^2)

**FrequencyBodyGyroscopeMagnitudeMean**

Mean Magnitude of the frequency domain Gyroscope signal for Body

rad/seg

**FrequencyBodyGyroscopeMagnitudeSTD**

Standard deviation of Magnitude of the frequency domain Gyroscope signal for Body

rad/seg

**FrequencyBodyGyroscopeMagnitudeMeanFrequency**

Mean frequency Magnitude of the frequency domain Gyroscope signal for Body

rad/seg

**FrequencyBodyGyroscopeJerkMagnitudeMean**

Mean Magnitude of the frequency domain Gyroscope signal for Body Jerk

rad/seg

**FrequencyBodyGyroscopeJerkMagnitudeSTD**

Standard deviation of Magnitude of the frequency domain Gyroscope signal for Body Jerk

rad/seg

**FrequencyBodyGyroscopeJerkMagnitudeMeanFrequency**

Mean frequency Magnitude of the frequency domain Gyroscope signal for Body Jerk

rad/seg

**angle(TimeBodyAccelerometerMean,Gravity)**

Angle between time domain mean accelerometer signal for Body and gravity

rad

**angle(TimeBodyAccelerometerJerkMean,GravityMean)**

Angle between time domain mean accelerometer signal for Body Jerk and mean gravity

rad

**angle(TimeBodyGyroscopeMean,GravityMean)**

Angle between time domain mean Gyroscope signal for Body and mean gravity

rad

**angle(TimeBodyGyroscopeJerkMean,GravityMean)**

Angle between time domain mean Gyroscope signal for Body Jerk and mean gravity

rad

**angle(X,GravityMean)**

Angle between X-axis and mean gravity

rad

**angle(Y,GravityMean)**

Angle between Y-axis and mean gravity

rad

**angle(Z,GravityMean)**

Angle between Z-axis and mean gravity

rad