Code book

The data set in this code book is available in tidy_data_set.csv .

Variables

Subject, Activity and 79 signal measurements.

1. **Subject**

   Subject : Integers from 1 - 30

2. **Activity**

   6 possible values:

   - ✓ WALKING: subject walking
   - ✓ WALKING_UPSTAIRS: subject walking upstairs
   - ✓ WALKING_DOWNSTAIRS: subject walking downstairs
   - ✓ SITTING: subject sitting
   - ✓ STANDING: subject standing
   - ✓ LAYING: subject laying

3. **Measurements**

   All measurements are either average or standard deviation values and are recorded using gyroscope and accelerometer in X , Y, Z direction.

   The measurements are split into Time domain signals and Frequency domain signals.

   - ✓ Time Domain Body Accelerometer Mean X
   - ✓ Time Domain Body Accelerometer Mean Y
   - ✓ Time Domain Body Accelerometer Mean Z
   - ✓ Time Domain Body Accelerometer Standard Deviation X
   - ✓ Time Domain Body Accelerometer Standard Deviation Y
   - ✓ Time Domain Body Accelerometer Standard Deviation Z
   - ✓ Time Domain Gravity Accelerometer Mean X
   - ✓ Time Domain Gravity Accelerometer Mean Y
   - ✓ Time Domain Gravity Accelerometer Mean Z
   - ✓ Time Domain Gravity Accelerometer Standard Deviation X
   - ✓ Time Domain Gravity Accelerometer Standard Deviation Y
   - ✓ Time Domain Gravity Accelerometer Standard Deviation Z
   - ✓ Time Domain Body AccelerometerJerk Mean X
   - ✓ Time Domain Body AccelerometerJerk Mean Y
   - ✓ Time Domain Body AccelerometerJerk Mean Z
   - ✓ Time Domain Body AccelerometerJerk Standard Deviation X
   - ✓ Time Domain Body AccelerometerJerk Standard Deviation Y
   - ✓ Time Domain Body AccelerometerJerk Standard Deviation Z

- ✓ Time Domain Body Gyroscope Mean X
- ✓ Time Domain Body Gyroscope Mean Y
- ✓ Time Domain Body Gyroscope Mean Z
- ✓ Time Domain Body Gyroscope Standard Deviation X
- ✓ Time Domain Body Gyroscope Standard Deviation Y
- ✓ Time Domain Body Gyroscope Standard Deviation Z
- ✓ Time Domain Body Gyroscope Jerk Mean X
- ✓ Time Domain Body Gyroscope Jerk Mean Y
- ✓ Time Domain Body Gyroscope Jerk Mean Z
- ✓ Time Domain Body Gyroscope Jerk Standard Deviation X
- ✓ Time Domain Body Gyroscope Jerk Standard Deviation Y
- ✓ Time Domain Body Gyroscope Jerk Standard Deviation Z
- ✓ Time Domain Body Accelerometer Magnitude Mean
- ✓ Time Domain Body Accelerometer Magnitude Standard Deviation
- ✓ Time Domain Gravity Accelerometer Magnitude Mean
- ✓ Time Domain Gravity Accelerometer Magnitude Standard Deviation
- ✓ Time Domain Body AccelerometerJerk Magnitude Mean
- ✓ Time Domain Body AccelerometerJerk Magnitude Standard Deviation
- ✓ Time Domain Body Gyroscope Magnitude Mean
- ✓ Time Domain Body Gyroscope Magnitude Standard Deviation
- ✓ Time Domain Body Gyroscope Jerk Magnitude Mean
- ✓ Time Domain Body Gyroscope Jerk Magnitude Standard Deviation
- ✓ Frequency Domain Body Accelerometer Mean X
- ✓ Frequency Domain Body Accelerometer Mean Y
- ✓ Frequency Domain Body Accelerometer Mean Z
- ✓ Frequency Domain Body Accelerometer Standard Deviation X
- ✓ Frequency Domain Body Accelerometer Standard Deviation Y
- ✓ Frequency Domain Body Accelerometer Standard Deviation Z
- ✓ Frequency Domain Body Accelerometer Mean FreqX
- ✓ Frequency Domain Body Accelerometer Mean FreqY
- ✓ Frequency Domain Body Accelerometer Mean FreqZ
- ✓ Frequency Domain Body AccelerometerJerk Mean X
- ✓ Frequency Domain Body AccelerometerJerk Mean Y
- ✓ Frequency Domain Body AccelerometerJerk Mean Z
- ✓ Frequency Domain Body AccelerometerJerk Standard Deviation X
- ✓ Frequency Domain Body AccelerometerJerk Standard Deviation Y
- ✓ Frequency Domain Body AccelerometerJerk Standard Deviation Z
- ✓ Frequency Domain Body AccelerometerJerk Mean FreqX
- ✓ Frequency Domain Body AccelerometerJerk Mean FreqY
- ✓ Frequency Domain Body AccelerometerJerk Mean FreqZ
- ✓ Frequency Domain Body Gyroscope Mean X
- ✓ Frequency Domain Body Gyroscope Mean Y
- ✓ Frequency Domain Body Gyroscope Mean Z

- ✓ Frequency Domain Body Gyroscope Standard Deviation X
- ✓ Frequency Domain Body Gyroscope Standard Deviation Y
- ✓ Frequency Domain Body Gyroscope Standard Deviation Z
- ✓ Frequency Domain Body Gyroscope Mean FreqX
- ✓ Frequency Domain Body Gyroscope Mean FreqY
- ✓ Frequency Domain Body Gyroscope Mean FreqZ
- ✓ Frequency Domain Body Accelerometer Magnitude Mean
- ✓ Frequency Domain Body Accelerometer Magnitude Standard Deviation
- ✓ Frequency Domain Body Accelerometer Magnitude Mean Freq
- ✓ Frequency Domain BodyBody AccelerometerJerk Magnitude Mean
- ✓ Frequency Domain BodyBody AccelerometerJerk Magnitude Standard Deviation
- ✓ Frequency Domain BodyBody AccelerometerJerk Magnitude Mean Freq
- ✓ Frequency Domain BodyBody Gyroscope Magnitude Mean
- ✓ Frequency Domain BodyBody Gyroscope Magnitude Standard Deviation
- ✓ Frequency Domain BodyBody Gyroscope Magnitude Mean Freq
- ✓ Frequency Domain BodyBody Gyroscope Jerk Magnitude Mean
- ✓ Frequency Domain BodyBody Gyroscope Jerk Magnitude Standard Deviation
- ✓ Frequency Domain BodyBody Gyroscope Jerk Magnitude Mean Freq

Transformations

The zip file containing the source data is located at https://d396qusza40orc.cloudfront.net/getdata%2Fprojectfiles%2FUCI%20HAR%20Dataset.zip.

The following transformations were applied to the source data:

1. The training and test sets were merged to create one data set.
2. The measurements on the mean and standard deviation extracted for each measurement, and the others were discarded.
3. The activity identifiers were replaced with descriptive activity names
4. The variable names were replaced with descriptive variable names
5. From the data set in step 4, the final data set was created with the average of each variable for each activity and each subject and was written to tidi_data_set.csv.