CodeBook

Feature Selection

The features selected have been derived from from the accelerometer and gyroscope 3-axial raw signals.

Suffixes Xax , Yax and Zax represent measurements along the 3 axes.

In naming the features, time domain signals are prefixed with “time”" and frequency domain signals are prefixed with “frequency”.

While the original data has many features, only features relating to mean and std values have been extracted and summarized by the subject (represented by ht enumerls 1 to 30) and the activity (represented by one of six activity descriptions). The final list of selected features is:

```
subject
activity
timeBodyAccelerometer.MeanXax
timeBodyAccelerometer.MeanYax
timeBodyAccelerometer.MeanZax
timeBodyAccelerometer.STDXax
timeBodyAccelerometer.STDYax
timeBodyAccelerometer.STDZax
timeGravityAccelerometer.MeanXax
timeGravityAccelerometer.MeanYax
timeGravityAccelerometer.MeanZax
timeGravityAccelerometer.STDXax
timeGravityAccelerometer.STDYax
timeGravityAccelerometer.STDZax
timeBodyAccelerometerJerk.MeanXax
timeBodyAccelerometerJerk.MeanYax
timeBodyAccelerometerJerk.MeanZax
timeBodyAccelerometerJerk.STDXax
timeBodyAccelerometerJerk.STDYax
timeBodyAccelerometerJerk.STDZax
timeBodyGyroscope.MeanXax
```

timeBodyGyroscope.MeanYax
timeBodyGyroscope.MeanZax
timeBodyGyroscope.STDXax
timeBodyGyroscope.STDYax
timeBodyGyroscope.STDZax
timeBodyGyroscopeJerk.MeanXax
timeBodyGyroscopeJerk.MeanYax
timeBodyGyroscopeJerk.MeanZax
timeBodyGyroscopeJerk.STDXax
timeBodyGyroscopeJerk.STDYax
timeBodyGyroscopeJerk.STDZax
timeBodyAccelerometerMagnitude.Mean
timeBodyAccelerometerMagnitude.STD
timeGravityAccelerometerMagnitude.Mean
timeGravityAccelerometerMagnitude.STD
timeBodyAccelerometerJerkMagnitude.Mean
timeBodyAccelerometerJerkMagnitude.STD
timeBodyGyroscopeMagnitude.Mean
timeBodyGyroscopeMagnitude.STD
timeBodyGyroscopeJerkMagnitude.Mean
timeBodyGyroscopeJerkMagnitude.STD
frequencyBodyAccelerometer.MeanXax
frequencyBodyAccelerometer.MeanYax
frequencyBodyAccelerometer.MeanZax
frequencyBodyAccelerometer.STDXax
frequencyBodyAccelerometer.STDYax
frequencyBodyAccelerometer.STDZax
frequencyBodyAccelerometer.MeanFreqXax
frequencyBodyAccelerometer.MeanFreqYax
frequencyBodyAccelerometer.MeanFreqZax
frequencyBodyAccelerometerJerk.MeanXax
frequencyBodyAccelerometerJerk.MeanYax
frequencyBodyAccelerometerJerk.MeanZax
frequencyBodyAccelerometerJerk.STDXax
frequencyBodyAccelerometerJerk.STDYax
frequencyBodyAccelerometerJerk.STDZax
frequencyBodyAccelerometerJerk.MeanFreqXax
frequencyBodyAccelerometerJerk.MeanFreqYax
frequencyBodyAccelerometerJerk.MeanFreqZax
frequencyBodyGyroscope.MeanXax
frequencyBodyGyroscope.MeanYax
frequencyBodyGyroscope.MeanZax
frequencyBodyGyroscope.STDXax
frequencyBodyGyroscope.STDYax
frequencyBodyGyroscope.STDZax
frequencyBodyGyroscope.MeanFreqXax

frequencyBodyGyroscope.MeanFreqYax
frequencyBodyGyroscope.MeanFreqZax
frequencyBodyAccelerometerMagnitude.Mean
frequencyBodyAccelerometerMagnitude.STD
frequencyBodyAccelerometerMagnitude.MeanFreq
frequencyBodyAccelerometerJerkMagnitude.Mean
frequencyBodyAccelerometerJerkMagnitude.STD
frequencyBodyAccelerometerJerkMagnitude.MeanFreq
frequencyBodyGyroscopeMagnitude.Mean
frequencyBodyGyroscopeMagnitude.STD
frequencyBodyGyroscopeMagnitude.MeanFreq
frequencyBodyGyroscopeJerkMagnitude.Mean
frequencyBodyGyroscopeJerkMagnitude.STD
frequencyBodyGyroscopeJerkMagnitude.MeanFreq