User manual for SCUT-NAA dataset

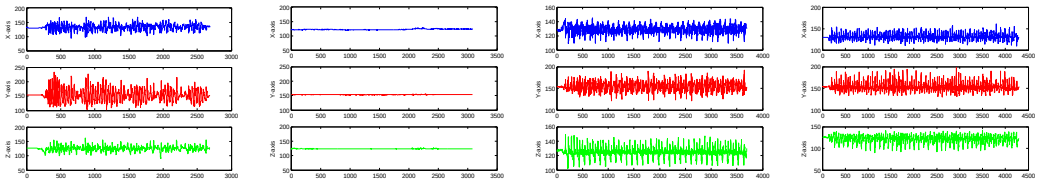
- We developed a sampling device embedding two tri-axial accelerometers. We can collect two same tri-axial accelerations when sampling person performs each activity. SCUT-NAA dataset contains ten activities data contributed by 44 different persons with only one tri-axial accelerometer located in waist belt, pants pocket, and cloth pocket respectively. Ten activities are listed in below table.

Description of ten activities

Activity	Description
Sitting & relaxing	Sitting & doing nothing
Walking	Walking 50 meters at normal speed
Walking quickly	Walking 50 meters quicker than normal speed
Walking backward	Backing you up 50 meters
Running	Jogging 100 meters
Step walking	Moving the feet alternately in the rhythm of a marching step without advancing
Jumping	Jumping 45s without advancing
Upstairs	
Downstairs	
Bicycling	Bicycling, but not very fast

- Data from the accelerometer has the following attributes: time, acceleration along x axis (blue), acceleration along y axis (red), and acceleration along z axis (green).

Examples of raw signals for different activities



(a) Upstairs **(b) Relax** **(c) Walking** **(d) Walking backward**

- The data stream is in plain text format. Each row contains the X, Y and Z values of a data point. There are comma “,” between X and Y, Y and Z values.

Line #	Description		
1	X value of the 1st data point	Y value of the 1st data point	Z value of the 1st data point
2	X value of the 2nd data point	Y value of the 2nd data point	Z value of the 2nd data point
3	X value of the 3rd data point	Y value of the 3rd data point	Z value of the 3rd data point
…			
N	X value of the N-1 data point	Y value of the N-1 data point	Z value of the N-1 data point

Examples:

- 130,156,123
  129,154,121
  130,154,118
  130,154,116
  127,154,117
  124,155,118
  121,156,122
  117,156,137
  114,157,153
  118,160,158
  127,164,150
  135,167,141
  139,167,133
  142,164,131
  141,160,127
  140,156,124
  137,154,125
  132,154,128
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  119,145,134
  117,144,137
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136,158,126
136,155,126

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131,151,124
130,153,125
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127,153,126
128,151,126
129,152,121
132,149,126
130,149,125
133,152,123

- To convert the value in our dataset (supposed it is denoted as x) to the real acceleration value (supposed it is denoted as g_x), just apply the following equation: g_x = (x-128) / 26