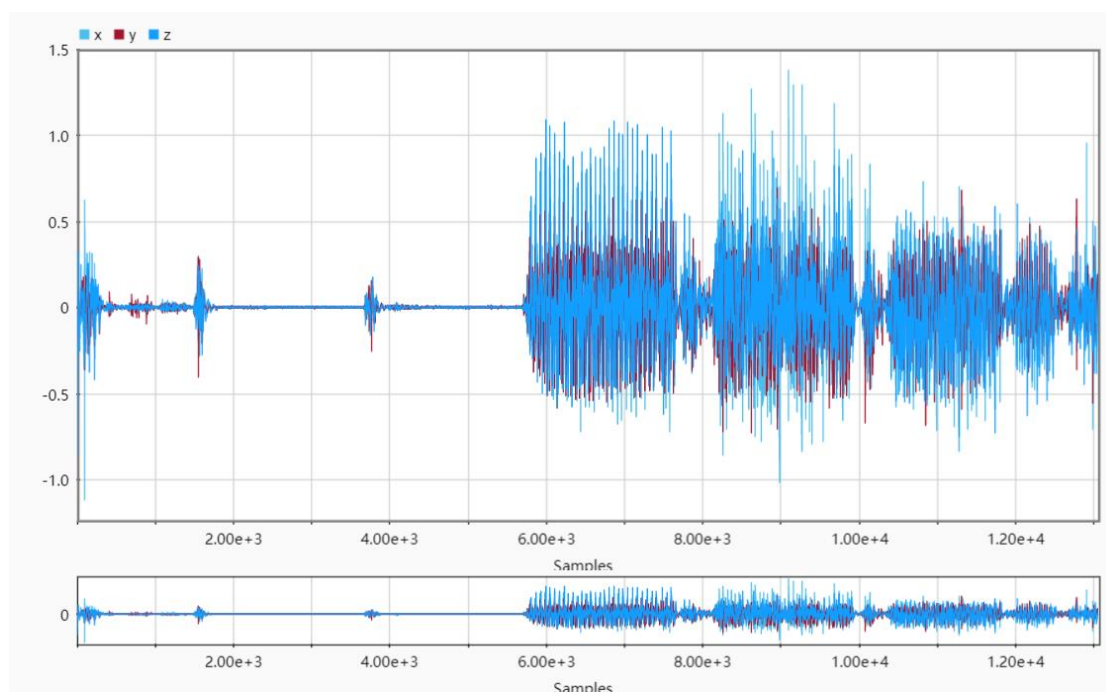


上图为原始加速度图，分别有 x, y, z 的，之后进行滤波处理



截取了五个部分，长度均为 1500 的，给出概率以及最终判别以及各类概率值，正常讲，我们的动作为坐，站，走，下楼，上楼，给出的概率顺序为'Walking' 'WalkingUpstairs'

'WalkingDownstairs' 'Sitting' 'Standing' 'Laying', 从上到下顺序，

estimatedActivity = 'Sitting'

scores = 6×1

0.0000

0.0000

```

0.0000
0.7289
0.2136
0.0575
estimatedActivity = 'Laying'
scores = 6×1
0.0000
0.0000
0.0000
0.0136
0.0000
0.9864
estimatedActivity = 'WalkingDownstairs'
scores = 6×1
0.0003
0.0002
0.9994
0.0000
0.0000
0.0000
estimatedActivity = 'WalkingDownstairs'
scores = 6×1
0.0000
0.0005
0.9995
0.0000
0.0000
0.0000
estimatedActivity = 'WalkingDownstairs'
scores = 6×1
0.0006
0.0012
0.9976
0.0000
0.0000
0.0006

```

发现效果不好，所以我们探索了一下函数

发现函数内部有滤波函数，所以就去掉了滤波，修正后的结果如下

```

estimatedActivity = 'Laying'
estimatedActivity = 'Laying'
estimatedActivity = 'Laying'
estimatedActivity = 'Laying'
estimatedActivity = 'Walking'
estimatedActivity = 'Walking'

```

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

`estimatedActivity = 'Laying'`



[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

estimatedActivity = 'Laying'  
estimatedActivity = 'WalkingDownstairs'  
estimatedActivity = 'WalkingDownstairs'  
estimatedActivity = 'WalkingDownstairs'  
estimatedActivity = 'WalkingDownstairs'  
estimatedActivity = 'Walking'  
estimatedActivity = 'Laying'  
estimatedActivity = 'Walking'  
estimatedActivity = 'Walking'  
estimatedActivity = 'Walking'  
estimatedActivity = 'Walking'  
estimatedActivity = 'Walking'  
estimatedActivity = 'Walking'  
estimatedActivity = 'Walking'  
estimatedActivity = 'WalkingDownstairs'  
estimatedActivity = 'Walking'  
estimatedActivity = 'Walking'  
estimatedActivity = 'Walking'  
estimatedActivity = 'Walking'  
estimatedActivity = 'Walking'  
estimatedActivity = 'Walking'  
estimatedActivity = 'WalkingDownstairs'  
estimatedActivity = 'Walking'  
estimatedActivity = 'Walking'  
estimatedActivity = 'WalkingDownstairs'  
estimatedActivity = 'Walking'  
estimatedActivity = 'Walking'  
estimatedActivity = 'WalkingDownstairs'  
estimatedActivity = 'WalkingDownstairs'  
estimatedActivity = 'Walking'  
estimatedActivity = 'Walking'  
estimatedActivity = 'Walking'  
estimatedActivity = 'WalkingDownstairs'  
estimatedActivity = 'WalkingDownstairs'  
estimatedActivity = 'Walking'  
estimatedActivity = 'Walking'  
estimatedActivity = 'Walking'  
estimatedActivity = 'WalkingDownstairs'  
estimatedActivity = 'WalkingDownstairs'  
estimatedActivity = 'Walking'  
estimatedActivity = 'Walking'  
estimatedActivity = 'Walking'



estimatedActivity = 'Walking'
estimatedActivity = 'WalkingDownstairs'
estimatedActivity = 'WalkingDownstairs'
estimatedActivity = 'Walking'
estimatedActivity = 'WalkingDownstairs'
estimatedActivity = 'Walking'
estimatedActivity = 'Walking'
estimatedActivity = 'WalkingDownstairs'
estimatedActivity = 'Walking'
estimatedActivity = 'Walking'
estimatedActivity = 'Walking'
estimatedActivity = 'WalkingDownstairs'
estimatedActivity = 'WalkingDownstairs'
estimatedActivity = 'WalkingDownstairs'
estimatedActivity = 'Walking'
estimatedActivity = 'Walking'
estimatedActivity = 'Walking'
estimatedActivity = 'WalkingDownstairs'
estimatedActivity = 'WalkingDownstairs'
estimatedActivity = 'Walking'
estimatedActivity = 'WalkingDownstairs'
estimatedActivity = 'Walking'
estimatedActivity = 'WalkingDownstairs'
estimatedActivity = 'WalkingDownstairs'
estimatedActivity = 'Walking'
estimatedActivity = 'WalkingDownstairs'
estimatedActivity = 'WalkingDownstairs'
estimatedActivity = 'Walking'
estimatedActivity = 'Walking'
estimatedActivity = 'Walking'
estimatedActivity = 'Walking'
estimatedActivity = 'WalkingDownstairs'
estimatedActivity = 'Walking'
estimatedActivity = 'Walking'
estimatedActivity = 'Walking'
estimatedActivity = 'Walking'
estimatedActivity = 'WalkingDownstairs'
estimatedActivity = 'Walking'

estimatedActivity = 'Walking'
estimatedActivity = 'Walking'
estimatedActivity = 'Walking'
estimatedActivity = 'WalkingDownstairs'
estimatedActivity = 'WalkingDownstairs'
estimatedActivity = 'Walking'
estimatedActivity = 'Walking'
estimatedActivity = 'Walking'
estimatedActivity = 'Walking'
estimatedActivity = 'Walking'
estimatedActivity = 'WalkingDownstairs'
estimatedActivity = 'Walking'
estimatedActivity = 'Walking'
estimatedActivity = 'Walking'
estimatedActivity = 'Walking'
estimatedActivity = 'WalkingDownstairs'
estimatedActivity = 'WalkingDownstairs'
estimatedActivity = 'Walking'
estimatedActivity = 'Walking'
estimatedActivity = 'Walking'
estimatedActivity = 'Walking'
estimatedActivity = 'WalkingDownstairs'
estimatedActivity = 'Walking'
estimatedActivity = 'Walking'
estimatedActivity = 'Walking'
estimatedActivity = 'Walking'
estimatedActivity = 'WalkingDownstairs'
estimatedActivity = 'Walking'
estimatedActivity = 'Walking'
estimatedActivity = 'Walking'
estimatedActivity = 'Walking'
estimatedActivity = 'WalkingDownstairs'
estimatedActivity = 'Walking'
estimatedActivity = 'Walking'
estimatedActivity = 'Walking'
estimatedActivity = 'Walking'

estimatedActivity = 'Walking'  
estimatedActivity = 'Walking'  
estimatedActivity = 'Walking'  
estimatedActivity = 'Walking'  
estimatedActivity = 'Walking'  
estimatedActivity = 'Walking'  
estimatedActivity = 'Walking'  
estimatedActivity = 'WalkingDownstairs'  
estimatedActivity = 'Walking'  
estimatedActivity = 'Walking'  
estimatedActivity = 'Walking'  
estimatedActivity = 'Walking'  
estimatedActivity = 'Walking'  
estimatedActivity = 'Walking'  
estimatedActivity = 'Walking'  
estimatedActivity = 'Walking'  
estimatedActivity = 'Walking'  
estimatedActivity = 'WalkingDownstairs'  
estimatedActivity = 'WalkingDownstairs'  
estimatedActivity = 'Walking'  
estimatedActivity = 'Walking'  
estimatedActivity = 'WalkingDownstairs'  
estimatedActivity = 'Walking'  
estimatedActivity = 'Walking'  
estimatedActivity = 'WalkingDownstairs'  
estimatedActivity = 'WalkingDownstairs'  
estimatedActivity = 'Walking'  
estimatedActivity = 'Walking'  
estimatedActivity = 'WalkingDownstairs'  
estimatedActivity = 'WalkingDownstairs'  
estimatedActivity = 'Walking'  
estimatedActivity = 'Laying'  
estimatedActivity = 'Walking'  
estimatedActivity = 'Walking'  
estimatedActivity = 'Walking'  
estimatedActivity = 'WalkingDownstairs'  
estimatedActivity = 'Walking'  
estimatedActivity = 'Walking'  
estimatedActivity = 'Walking'  
estimatedActivity = 'Walking'

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]



[illegible]

[illegible]

estimatedActivity = 'WalkingDownstairs'  
estimatedActivity = 'Laying'  
estimatedActivity = 'WalkingDownstairs'  
estimatedActivity = 'WalkingDownstairs'  
estimatedActivity = 'WalkingDownstairs'  
estimatedActivity = 'WalkingDownstairs'  
estimatedActivity = 'Laying'  
estimatedActivity = 'Laying'  
estimatedActivity = 'WalkingDownstairs'  
estimatedActivity = 'WalkingDownstairs'  
estimatedActivity = 'WalkingDownstairs'  
estimatedActivity = 'Laying'  
estimatedActivity = 'Laying'  
estimatedActivity = 'Walking'  
estimatedActivity = 'WalkingDownstairs'  
estimatedActivity = 'WalkingDownstairs'  
estimatedActivity = 'WalkingDownstairs'  
estimatedActivity = 'Laying'  
estimatedActivity = 'Laying'  
estimatedActivity = 'WalkingDownstairs'  
estimatedActivity = 'WalkingDownstairs'  
estimatedActivity = 'WalkingDownstairs'  
estimatedActivity = 'WalkingDownstairs'  
estimatedActivity = 'Laying'  
estimatedActivity = 'Laying'  
estimatedActivity = 'Walking'  
estimatedActivity = 'WalkingDownstairs'  
estimatedActivity = 'WalkingDownstairs'  
estimatedActivity = 'WalkingDownstairs'  
estimatedActivity = 'WalkingDownstairs'  
estimatedActivity = 'Laying'  
estimatedActivity = 'WalkingDownstairs'  
estimatedActivity = 'WalkingDownstairs'  
estimatedActivity = 'WalkingDownstairs'  
estimatedActivity = 'WalkingDownstairs'  
estimatedActivity = 'Laying'  
estimatedActivity = 'Walking'  
estimatedActivity = 'WalkingDownstairs'

[illegible]

estimatedActivity = 'WalkingDownstairs'
estimatedActivity = 'WalkingDownstairs'
estimatedActivity = 'WalkingDownstairs'
estimatedActivity = 'WalkingDownstairs'
estimatedActivity = 'Laying'
estimatedActivity = 'Walking'
estimatedActivity = 'Walking'
estimatedActivity = 'WalkingDownstairs'
estimatedActivity = 'WalkingDownstairs'
estimatedActivity = 'WalkingDownstairs'
estimatedActivity = 'Laying'
estimatedActivity = 'Walking'
estimatedActivity = 'Walking'
estimatedActivity = 'WalkingDownstairs'
estimatedActivity = 'WalkingDownstairs'
estimatedActivity = 'Walking'
estimatedActivity = 'Laying'
estimatedActivity = 'Laying'
estimatedActivity = 'WalkingDownstairs'
estimatedActivity = 'WalkingDownstairs'
estimatedActivity = 'WalkingDownstairs'
estimatedActivity = 'Walking'
estimatedActivity = 'Laying'
estimatedActivity = 'Laying'
estimatedActivity = 'WalkingDownstairs'
estimatedActivity = 'WalkingDownstairs'
estimatedActivity = 'WalkingDownstairs'
estimatedActivity = 'WalkingUpstairs'
estimatedActivity = 'WalkingDownstairs'
estimatedActivity = 'Laying'
estimatedActivity = 'WalkingDownstairs'
estimatedActivity = 'WalkingDownstairs'
estimatedActivity = 'WalkingUpstairs'
estimatedActivity = 'WalkingUpstairs'
estimatedActivity = 'WalkingUpstairs'
estimatedActivity = 'WalkingUpstairs'
estimatedActivity = 'WalkingUpstairs'
estimatedActivity = 'Laying'
estimatedActivity = 'Laying'
estimatedActivity = 'Laying'
estimatedActivity = 'WalkingDownstairs'
estimatedActivity = 'WalkingDownstairs'
estimatedActivity = 'WalkingDownstairs'
estimatedActivity = 'WalkingDownstairs'

estimatedActivity = 'WalkingDownstairs'  
estimatedActivity = 'WalkingDownstairs'  
estimatedActivity = 'WalkingDownstairs'  
estimatedActivity = 'WalkingDownstairs'  
estimatedActivity = 'WalkingDownstairs'  
estimatedActivity = 'WalkingDownstairs'  
estimatedActivity = 'WalkingDownstairs'  
estimatedActivity = 'WalkingDownstairs'  
estimatedActivity = 'Laying'  
estimatedActivity = 'Laying'  
estimatedActivity = 'Laying'  
estimatedActivity = 'WalkingDownstairs'  
estimatedActivity = 'WalkingDownstairs'  
estimatedActivity = 'WalkingDownstairs'  
estimatedActivity = 'WalkingDownstairs'  
estimatedActivity = 'Laying'  
estimatedActivity = 'Laying'  
estimatedActivity = 'Laying'  
estimatedActivity = 'WalkingDownstairs'  
estimatedActivity = 'WalkingDownstairs'  
estimatedActivity = 'WalkingDownstairs'  
estimatedActivity = 'Laying'  
estimatedActivity = 'Laying'  
estimatedActivity = 'Laying'  
estimatedActivity = 'WalkingDownstairs'  
estimatedActivity = 'WalkingDownstairs'  
estimatedActivity = 'WalkingDownstairs'  
estimatedActivity = 'WalkingDownstairs'  
estimatedActivity = 'Laying'  
estimatedActivity = 'Laying'  
estimatedActivity = 'Laying'  
estimatedActivity = 'WalkingDownstairs'  
estimatedActivity = 'WalkingDownstairs'  
estimatedActivity = 'WalkingDownstairs'  
estimatedActivity = 'WalkingDownstairs'  
estimatedActivity = 'Laying'  
estimatedActivity = 'Laying'  
estimatedActivity = 'WalkingDownstairs'

[illegible]

estimatedActivity = 'WalkingDownstairs'  
estimatedActivity = 'WalkingDownstairs'  
estimatedActivity = 'WalkingDownstairs'  
estimatedActivity = 'WalkingDownstairs'  
estimatedActivity = 'WalkingDownstairs'  
estimatedActivity = 'WalkingDownstairs'  
estimatedActivity = 'WalkingDownstairs'  
estimatedActivity = 'WalkingDownstairs'  
estimatedActivity = 'Standing'  
estimatedActivity = 'WalkingDownstairs'  
estimatedActivity = 'WalkingUpstairs'  
estimatedActivity = 'WalkingUpstairs'

发现结果更加准确了。

此外，我们还考虑了手机的摆放姿态等问题，对此类应用的发展做出了讨论