There were two separate data collections, each of which has a separate data packing format. Each format will be given here.

# Collection 1

There are 4 collection subjection in the first collection set. Data within the first collection set is of the name “Subject[1-4]”.

The data within this set is compressed in the following binary format

[Timestamp][accel1][accel2][accel3][gyro1][gyro2][gyro3[yaw][pitch][roll][aest\_ave1][aest\_ave2][vest\_ave1][vest\_ave2]

Such that there are 14 individual fields in each packet, each of size float 32.

Example:

N=14;

fid=fopen(file,'r');

raw=fread(fid,inf,'float32');

fclose(fid);

data = reshape(raw,[N,numel(raw)/N]);

Where the first sample would be :

heading={'Timestamp',...

'accel 1','accel 2','accel 3',...

'gyro 1','gyro 2','gyro 3',...

'yaw ','pitch','roll',...

'Aest Ave 1','Aest Ave 2','Vest Ave 1','Vest Ave 2'};

for i=1:N; fprintf('%s\t:\t%f\n',heading{i},data(i,1)); end

# Collection 2

There are 2 collection subjection in the second collection set. Data within the second collection set is of the name “Subject[3-4]\_2”.

In each binary, there are 10 [float32] in each sample. Each is exactly after the previous such that

[Timestamp] [accel 1][accel 2][accel 3] [accel 1][accel 2][accel 3][yaw][pitch][roll]

Such that there are 10 individual fields in each packet, each of size float 32.

Example:

N = 10;

fid = fopen(IMU\_file,'r');

raw = fread(fid,inf,'float32');

fclose(fid);

data = reshape(raw, N,numel(raw)/ N).';

Where the first sample would be:

heading={'Timestamp',...

'accel 1','accel 2','accel 3',...

'gyro 1','gyro 2','gyro 3',...

'yaw ','pitch','roll'};

for i=1:N; fprintf('%s\t:\t%f\n',heading{i},data(i,1)); end