input data is at 50 Hz which is Data sources: acceloneter & gyroscepe 75 total activities (squats, lunges, etc) one data point every 1/50th fecond - For each activity: there are varying number of data signals (sets) · For each set (stored as numpy amay): the amount of time varyics from set to set · each set how 4 (x,y,z,t) features for each data point so set shape is (seconds, 4) ran.62 Segmentation Pre-Processing Oapply butterworth filter to normalize moran -> [· Data pre-processing for each. Ly for each (x, y, z, t) 3 create windows from the data for each (x,y, 2) 3 4 5 4 3 4 5 Resulting data format: activity 1) X1 X2 X3 X4 ... X290 windowl 41, 42, 43, ym, ... 1250 window window 2

window TIS

Dataframe he want: (schema)
Activity name, set #, t, tro, X1 X26, Y Y26, Z Z50, t, X26, Y Y26, Z Z50, t, X26, Y Y26, Z Z50, Z50, Z50, Z50, Z50, Z50, Z50, Z50,
1000 from each (gyposcope & accelerometer)
Segmentation Feature Computation
a Made Coathurs (B)
-X van data (250)
10 mm) - PCI: Xyz to every o occorrection of
(150)
- xmag: (x2+y2+22) 1/2 (280)
(Johns) -x van data
from 2 - PC1: X, y, z for every 5 second internal
from the first will be
900 - PC1: Y,Z
- xmag: (x2+y2+22) 1/2
2SDX4X2 = 2000 embeddings for each window
x 250 S 265
window x y z 250
to the manspore:
Next PCA, XYZ PGA, YZ
250 —> 250 —>
(trio 1) 250 x >

Resulting Schema:

Set-num (int),

activity (str), $g_{-} \times 0_{-}$ gyrosupe, ... $g_{-} \times 249_{-}$ gyrosupe (float),