



Human Fall Detection

Week 03 (Due on 25th June):

1. Give the videos you have created (or you can take videos made by others from the drive) as input variable to the posenet instead of Web-Cam live feed and extract the (skeletal) points.
2. Save these points in .csv format. This will be used as the dataset in the future for training your model.
3. .csv file must have the following columns present in it.
 - action_name
 - frame_no.
 - Input_number (*Skeletal Point number allocated by Posenet to each body point e.g.: Nose - 1 ,Right Elbow -9 , etc. **Don't give names of the Skeletal points. Only numbers are enough***)
 - x_coordinate
 - y_coordinate
4. Create only **one** .csv file and append the points to it after each action video given as an input.
5. Only a collective .csv file of all the actions can be used for training.
6. Your .csv file should look like this.

	A	B	C	D	E
	action	frame_number	input_number	x_inputs	y_inputs
1	sitting	1	1	202.3673927	367.8462386
2	sitting	1	2	178.6620315	395.6240879
3	sitting	1	3	171.5906953	348.0577621
4	sitting	1	4	198.9891299	420.2059536
5	sitting	1	5	183.2325516	320.8836305
6	sitting	1	6	291.2580559	426.8913918
7	sitting	1	7	265.9372863	280.4575686
8	sitting	1	8	388.581696	442.895675
9	sitting	1	9	348.48042	249.2457373
10	sitting	1	10	458.589457	409.7051654
11	sitting	1	11	402.6950186	257.3632656
12	sitting	1	12	422.0465432	388.9686617
13	sitting	1	13	419.4072151	299.543804
14	sitting	1	14	457.0047649	400.1021394
15	sitting	1	15	455.5829401	303.0698026
16	sitting	1	16	449.6225691	387.3056632
17	sitting	1	17	451.6150201	321.1174616
18	sitting	2	1	206.393789	364.3494411
19	sitting	2	2	180.2155428	392.4584071
20	sitting	2	3	173.3792499	345.7040303
21	sitting	2	4	199.4982928	418.2328419
22	sitting	2	5	186.3881905	317.4821659
23	sitting	2	6	291.2760024	424.3085852
24	sitting	2	7	267.0056877	280.0747008
25	sitting	2	8	394.0811085	448.0097577
26	sitting	2	9	353.9881931	250.8105438
27	sitting	2	10	461.4767132	411.9088617
28	sitting	2	11	424.8312908	248.8570975
29	sitting	2	12	418.9578962	389.7362377
30	sitting	2	13	429.2114514	303.4520512
31	sitting	2	14	450.5862934	402.8745995
32	sitting	2	15	458.6897006	317.9618786
33	sitting	2			

7. Explore and study about the possible algorithms (e.g. :- CNN, RNN, LSTM, etc.) that can be used to train the model using this created dataset , so that it becomes capable of distinguishing between the given actions. Find why some algorithms are more suited to our purpose than others. Also, study how the model is trained using these algorithms.
8. Check out the new videos added by your colleagues in the drive. Also we have added few videos from our side that can be used for creating dataset.