Human Fall Detection

## Week 01 (Due on 11th June):

* Explore following links to understand video classification:

Tensorflow:

1. <https://www.analyticsvidhya.com/blog/2019/09/step-by-step-deep-learning-tutorial-video-classification-python/>

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Open Pose: Explore about this more. The following link could be useful

1. <https://github.com/jrkwon/openpose/blob/master/doc/installation.md>
2. <https://github.com/ildoonet/tf-pose-estimation>

Pose Net:

1. <https://www.tensorflow.org/lite/models/pose_estimation/overview>
2. [https://github.com/tensorflow/tfjs-models/tree/master/posenet](https://slack-redir.net/link?url=https%3A%2F%2Fgithub.com%2Ftensorflow%2Ftfjs-models%2Ftree%2Fmaster%2Fposenet)  
   [https://ml5js.org/reference/api-PoseNet/](https://slack-redir.net/link?url=https%3A%2F%2Fml5js.org%2Freference%2Fapi-PoseNet%2F)  
   [https://www.npmjs.com/package/@tensorflow-models/posenet](https://slack-redir.net/link?url=https%3A%2F%2Fwww.npmjs.com%2Fpackage%2F%40tensorflow-models%2Fposenet)  
   [https://stackml.com/docs/posenet/](https://slack-redir.net/link?url=https%3A%2F%2Fstackml.com%2Fdocs%2Fposenet%2F)

* Create your dataset (Please make sure to use same camera for each footage while creating dataset).

1. One video needs to be of 60 seconds.
2. Video frame width X height should be around 640 X 480. Don’t have dimensions much smaller than this.
3. You can choose various actions like exercise (walking in hands up position, sit-ups, squats, touching right feet by left hand by bending and vice versa), walking (straight walking as well as walking like you are holding a walker by both hands like an old person), sitting on chair etc. under non-falling. Make 60 seconds video for each of this action separately. Choose at least 5 different actions.
4. Make a 60 seconds video for falling action.

### Outcome:

* Create a document based on your understanding about the project.
* Create datasets as mentioned above.