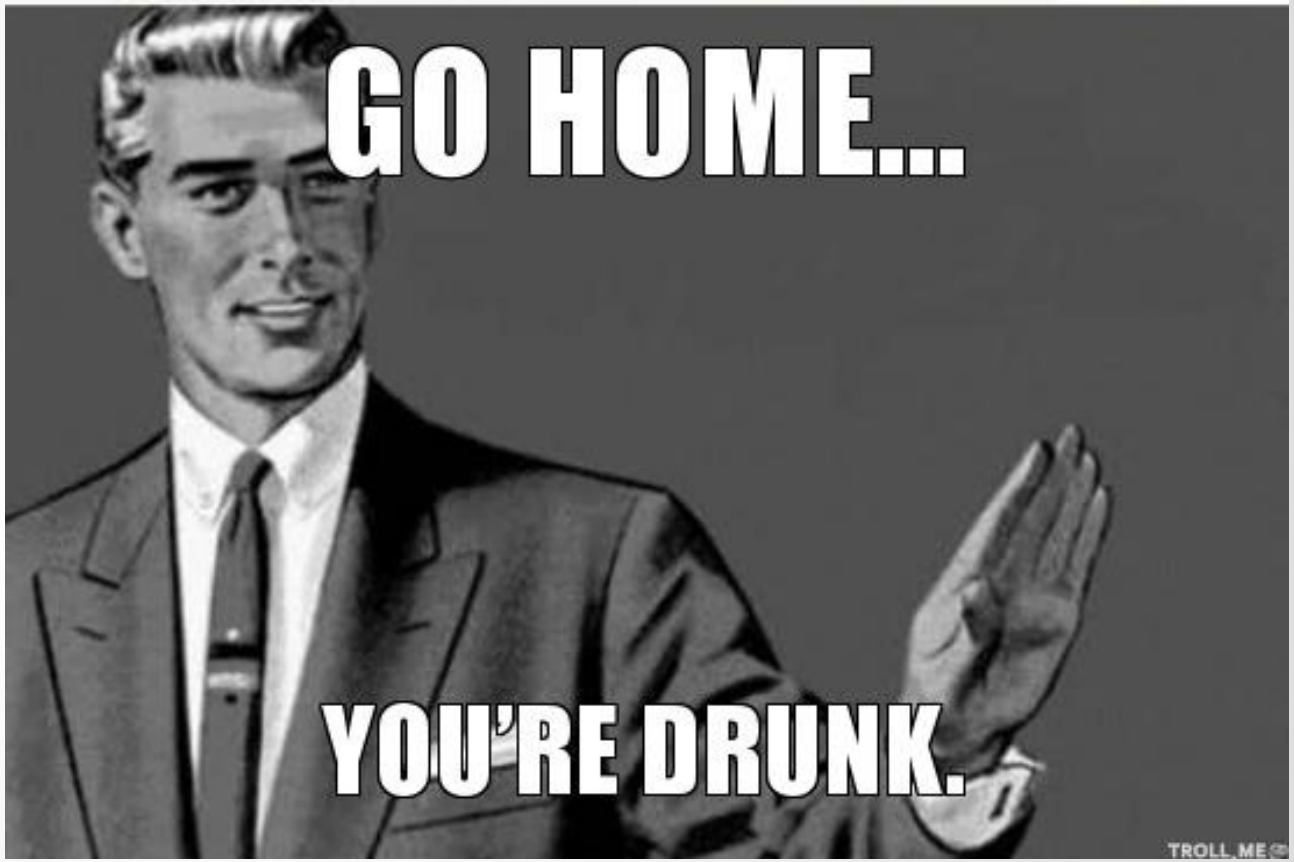
DRUNK PERSON DETECTION

TEAM HACKS

AGENDA

WE HAVE BUILT A DRUNK PERSON DETECTION SYSTEM BY ANALYSING THEIR BODY MOVEMENTS USING POSENET



WHERE CAN THIS BE USED ?

Colleges to detect drunk students

For Women's safety and security

Malls and Restaurants

Airports

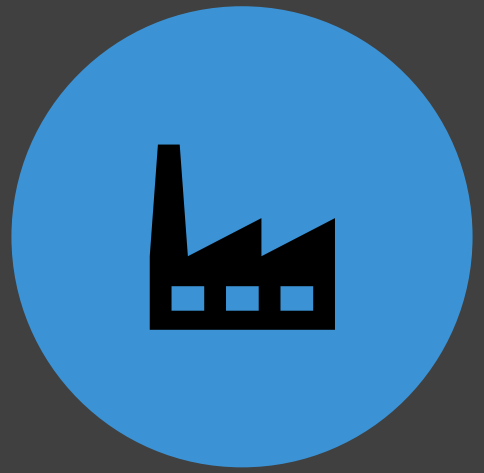
Traffic Cameras

BUSINESS MODEL

- Business Facing
- Pricing Model – One-Time
- Customer Acquiring Policy – Free trial run for 1 month before buying the product
- Customer Retention Policy – Regular Maintenance and support

TARGET AUDIENCE

SCHOOLS AND EDUCATIONAL INSTITUTIONS



CORPORATE COMPANIES AND FACTORIES

GO TO MARKET STRATEGY

FIELD SALES MODEL

- The field sales business model is when you have a full sales organization that closes large enterprise deals. These are typically complex products with high price points, which also means there's typically a low volume of deals with a long sales cycle.
- The sales team in this model is often very costly as the field reps are experienced, high-salary employees. This model is easy to build, but harder to scale, because it takes time and money to hire and train a full sales organization.

HOW IS OUR MODEL DIFFERENT ?

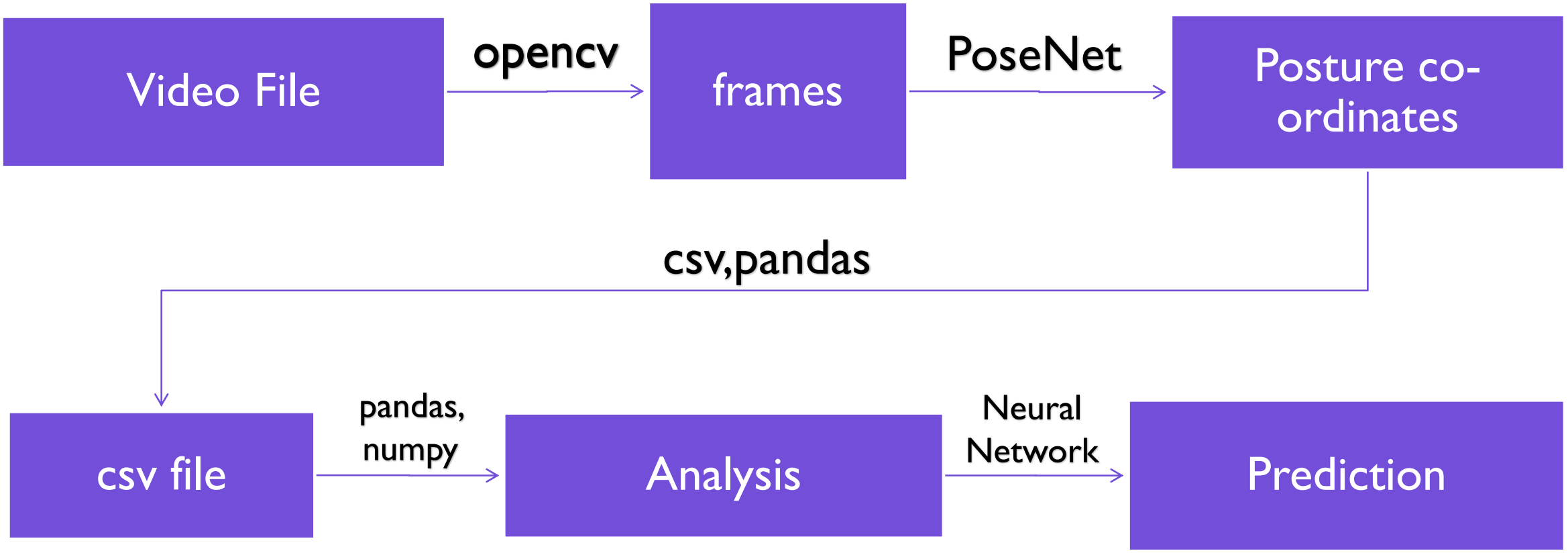
There is a drunk person detection available which works on thermal face detection. However our model works on posture recognition of the whole body and not only the face.

It's fast , simple and very cheap to use.

LIMITATIONS AND FUTURE IMPROVEMENTS

- Increase the training data for drunk actions.
- Use flask framework to implement the model as a full fledged application.
- Real time detection using cctv camera footage.

HOW IS IT IMPLEMENTED ?

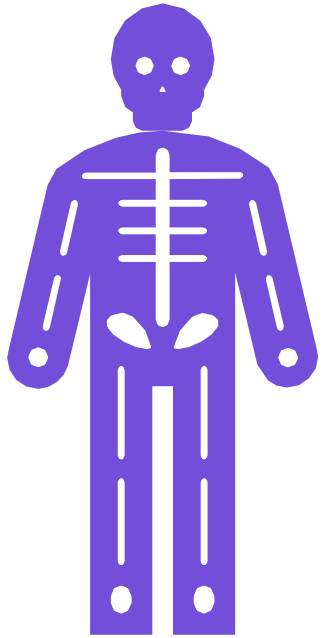


POSENET

PoseNet is a machine learning model that allows for Real-time Human Pose Estimation. **PoseNet** can be used to estimate either a single pose or multiple poses, meaning there is a version of the algorithm that can detect only one person in an image/video and one version that can detect multiple persons in an image/video.

TRAINING DATA – ANIMATIONS FROM MIXAMO.COM

OUTPUT OF THE POSENET



- A pose, containing both a pose confidence score and an array of 17 keypoints.
- Each keypoint contains a keypoint position and a keypoint confidence score. Again, all the keypoint positions have x and y coordinates in the input image space, and can be mapped directly onto the image.

HOW DO WE DETECT ?

- Once we get the .csv file with 34 columns – 17 pairs of xy coordiantes - , we find the Euclidean distances between successive frames and found an average of the distances.
- We have considered the minimum threshold to be less than 2 . If the average distance is greater than 3.5 , the person is totally drunk . For values between 2 and 3.5 , the person is considered quite drunk and still a potential threat


Now this is an Avengers level threat