

# Evaluating our performance

Is it looking good?

# Having done the model bootcamp

we have trained our model in Notebook 5

Now we also have to test it out to see how it performs in “real conditions” right?

Using Notebook 6, we will be able to watch how the model performs on “Live footage”, we will also be able to do some tracking of individuals in the footage, as well as do some cleaning of “noisy” detections

# Step 1: Preparing

Run the initial cells to get started, continue with choosing our project

We then get to choose which of our trained models we want to use, it is here naming becomes sort of important to tell the difference between each model

After choosing model, we continue with choosing the directory which we are to download our model to.

We then continue to choose the footage we want to run through the model,

first by choosing the source of said footage “Existing footage” (that has been uploaded to the server) or “New footage” (from another source)

After choosing the source of footage, we choose the exact footage itself, or the whole folder

In general, when testing the model performance, it is best to choose a single footage

## Step 2: Run the model

Begin with choosing our confidence threshold (default 0.5) for our model run

Continue with choosing an appropriate run name, choose a relatively consistent naming scheme for the purpose of keeping track of our runs (default: exp\_name)

Continue to choose the folder we want to store our run data in  
Run our model by using the provided cell

if using a YoloV5 model: Latest=False

If using a YoloV8 model: Latest = True

While our model is running, go grab a coffee or something.

## Step 3: View model output

Running the cell will yield a menu where we can choose footage to view, by going into the directory where we choose to save our footage, we will find a mp4 file with the same name as the original movie, choose this file and it should load up in the notebook, giving a visual of the model output bounding boxes “live” in the movie.

**Note:** Larger movies may crash the notebook at times

## Step 4: Tracking unique individuals (Optional)

So we have run through our footage with our model and gotten some nice results, but we now want to possibly track individuals in our footage for counting purposes

Run the cell of code provided in the notebook and go grab another coffee or something

Return to step 3 to view the output

## Step 5 clean up noisy tracking output (Optional too)

So, we have done the tracking, but find it a bit noisy for graphing purposes, so we have a function for “cleaning up the noise” so to speak

We begin with choosing the directory where our tracking data is located, this is in the same folder as the detection data, albeit in a subfolder of said directory.

After locating the tracking data and choosing the right directory, we can now start to choose how much we want to filter it by changing the parameters in:

```
avg_diff_frames=90, #Number of frames between the different detections  
    min_frames_length=90, #minimum amount of frames a annotation persists through
```

By running the cell after changing the parameters, it will generate a csv file in your directory as well as a graph showing the tracked individuals in the notebook

Play around a little with the parameters to see where a threshold where we get the highest accuracy at the lowest level of loss of detections.

And that should be it for this Notebook and tutorial