

## Similarity Matrices

Obtain the similarity matrices given the respective similarity-data. Make sure to include the columns for new tracks and to compute the softmax.

$[S \times D \times (T+D)]$

## Alpha Weights

Given the input of the similarity modules, compute the respective alpha weights given the alpha module. The alpha module is in most cases a simple fully-connected neural-network.

$[S]$

## Correct Matches

Compute a vector containing the IDs of the correct matches in the previous frame for every detection in the current frame.

$[D]$

## Alpha Target

Compare the maximum values in the unweighted and not summed similarity to the correct IDs to obtain the number of correct matches of the current prediction. Compute the batch-wise MOTA for each of the similarities.

$[S \times 1]$

## Back Propagation

Train the alpha module by back propagation using MSE-loss. The predicted alpha value should be as close to the alpha target as possible.

