Visualization 2:

In this project, the following upper body detectors have been trained:

• C1 - hidden faces negative set, 20x25 window, level min hit rate 0.995 and stump as a weak classifier

• C2 - hidden faces negative set, 20x25 window, level min hit rate 0.995 and 2-split CART as a weak classifier

• C3 - hidden faces negative set, 20x25 window, level min hit rate 0.995 and 4-split CART as a weak classifier

The C1, C2 and C3 detectors differ in the complexity of weak classifiers used.

Their performance was compared to the following Lienhart's detectors already available in the OpenCV:

• L1 - stump based, 24x24 window, Discrete AdaBoost

• L2 - stump based, 20x20 window, Gentle AdaBoost

• L3 - 2-split CART based, 20x20 window, Gentle AdaBoost

Average time of upper body detection on a PC with 512 MB RAM

Detector	Average detection time [ms]
C1	238.15
C2	220.38
C3	201.73
L1	550.98
L2	290.54
L3	433.89

The influence of weak classifier's complexity on upper body detection ratios: