

Lips detection

Applying Gaussian blur -> median -> mean(4 radii) -> Binary-Layer_3 -> if the remaining regions eccentricity is in range [2,4] it is lips.

Pupils

Canny edge detection -> method Hough for recognizing complex patterns (circle) -> getting coordinates of center of pupils.

// <https://ofko.spb.ru/v-politehe-startovala-nedelya-nauki-2017/>

Eye sockets detection

To increase the radius of circle of pupils until harsh intensity changing.

Symmetry axis

Line passing through centers of pupils -> orthogonal line passing through the center of midpoint of that section.

Ears

Binary Layer 2 -> line connecting centers of pupils -> line passing through the center of lips and parallel to pupils center connecting line -> the remaining parts between this parallel lines are ears.