

# Review of: "An automatic screening method for strabismus detection based on image processing"

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This paper proposed a study to provide an automatic strabismus screening method for people who live in remote areas with poor medical accessibility. The method proposed is divided into four main steps: face detection, landmarks detection, limbus detection, and compare the positional similarity of two eyes. Besides the study present an innovative method and it has achieved promissory results on 60 frontal facial images (30 strabismus images, 30 normal images), the comments are as follows:

- It does not specify if the dataset has patients that use a corrective lens.
- It does not specify the protocol of images acquisition.
- In the pupil detection step, it does not comment as the lower and upper bounds values are defined. That is, if the fixed values were defined by literature or empirical experiments.
- Segmentation based on fixed values for color-based segmentation methods depends on conditions such as ambient light, camera characteristics, and even patient characteristics such as skin color and eye color. One suggestion is to replace this step in future works.
- The explanation of how the method combines the binarization and HSV images to form a new image with a separated iris and shadows is confusing. Fig 4 shows the results of each stage of this procedure, but it does not explain how the combination occurs.
- The explanation of how the limbus region is delimited is a few confused. The sampling of all of the pixel points located at the limbus from the bottom to the top of the iris region is not explained in detail.
- Almeida et al. [18] should be Valent et al. [18]
- The paper points that a limitation of previous works has methods trained using datasets of specific populations. However, this work uses a dataset with patients of several countries? If not, maybe this statement is not relevant.