CloneVision

A smart glass for the visually challenged

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**Abstract**—Blindness is a vision impairment. People with blindness require assistance to help them with their daily chores. It is difficult for them to act independently. A novel solution to overcome this difficulty has been addressed in this paper, a wearable smart glasses named ‘CloneVision’. The paper presents the necessity, functionality, modules and working of the product in detail. The smartglass can recognize objects and faces of people in-front of them. It can detect obstacles in-front of the user and alerts them of the same. The smartglass uses Haar cascade classifier for object detection and LPBH (Local Binary Patterns Histograms) for face recognition. It gives audio output of the detected objects and faces. For object detection, a pre-trained model is fed into the algorithm and for face recognition, the model can be trained by capturing multiple pictures of the person’s face, add additional data about the person fed by the user and updating the dataset. Thus, the smartglass helps the user to be aware of the objects and people in-front of them. The proposed solution is dealt in-depth in the full paper.

**Keywords**— Blindness, vision impairment, smart glass, detection, recognition, Haar cascade classifier, LBPH, dataset.