

## Mage Fusion Based Eye Tumor Detection

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**Abstract :** Image fusion is a significant and efficient image processing method used for detecting different types of tumors. This method has been used as an effective combination technique for obtaining high quality images that combine anatomy and physiology of an organ. It is the main key in the huge biomedical machines for diagnosing cancer such as PET-CT machine. This thesis aims to develop an image analysis system for the detection of the eye tumor. Different image processing methods are used to extract the tumor and then mark it on the original image. The images are first smoothed using median filtering. The background of the image is subtracted, to be then added to the original, results in a brighter area of interest or tumor area. The images are adjusted in order to increase the intensity of their pixels which lead to clearer and brighter images. once the images are enhanced, the edges of the images are detected using canny operators results in a segmented image comprises only of the pupil and the tumor for the abnormal images, and the pupil only for the normal images that have no tumor. The images of normal and abnormal images are collected from two sources: "Miles Research" and "Eye Cancer". The computerized experimental results show that the developed image fusion based eye tumor detection system is capable of detecting the eye tumor and segment it to be superimposed on the original image.

**Keywords :** image fusion, eye tumor, canny operators, superimposed

**Conference Title :** ICCST 2015 : International Conference on Computer Science and Technology

**Conference Location :** Stockholm, Sweden

**Conference Dates :** July 13-14, 2015