

Bridging Quantitative and Qualitative of Glaucoma Detection

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ABSTRACT: Glaucoma diagnosis involves extracting three features of the fundus image; optic cup, optic disc and vernacular. Present manual diagnosis is expensive, tedious and time consuming. A number of researches have been conducted to automate this process. However, the variability between the diagnostic capability of an automated system and ophthalmologist has yet to be established. This paper discusses the efficiency and variability between ophthalmologist opinion and digital technique; threshold. The efficiency and variability measures are based on image quality grading; poor, satisfactory or good. The images are separated into four channels; gray, red, green and blue. A scientific investigation was conducted on three ophthalmologists who graded the images based on the image quality. The images are threshold using multithresholding and graded as done by the ophthalmologist. A comparison of grade from the ophthalmologist and threshold is made. The results show there is a small variability between result of ophthalmologists and digital threshold.

GLAUCOMA is an eye sickness that influences center to old grown-ups that lifts intraocular pressure which advances to harm the optic nerve. This will prompt

irreversible visual impairment which is preventable whenever found at an beginning phase . Restoratively glaucoma are recognized utilizing machine like Optical Coherence Tomography (OCT), Heidelberg Retinal Tomography (HRT) and fundus camera. OCT and HRT are pricey and not promptly accessible in clinics consequently numerous glaucoma cases go undetected. In the drive to observe a less expensive glaucoma screening technique, ophthalmologists return to cut light biomicroscopy Anyway this technique is tedious where the patient's understudies should be completely enlarged and an abstract cup to circle region proportion is assessed to measure the level of measuring. This estimation remains basically subjective and yield erroneous outcome where a few instances of glaucoma are missed Also, the recognition of early signs and moderate glaucomatous is incredibly troublesome because of helpless awareness and high entomb and intra-onlooker fluctuation . This persuades scientists to investigate symptomatic apparatus like advanced fundus camera which can oblige enormous scope and dull separating emergency clinics and centers Glaucoma location in fundus picture conclusion includes two

estimations; 1. Cup-to-Disk proportion (CDR) estimation by computing the upward cup stature isolated by vertical plate tallness proportion of veins region in mediocre unrivaled side to area of vein in the nasal-fleeting side. Most scientist centers just around the CDR . The CDR estimation is approved by contrasting against typical fundus pictures. tracked down that the analytic precision of the optometrists in recognizing glaucoma is high in explicitness yet lower for responsiveness. In the bid to build the responsiveness what's more explicitness of the finding, fostered a computerbased glaucoma screening framework which joins the optic nerve absconds identification, visual field assessment and master framework rules. Anyway the optic cup is troublesome and testing to section because of the muddled limit between optic cup and optic edge. This is additionally convoluted by the high thickness of vascular engineering encompassing the optic area. The trouble in fragmenting the circle and cup has coordinated research in the space of picture handling like difference upgrade (histogram particular) neighborhood contrast upgrade and histogram evening out , picture division (locale developing , thresholding and deformable model and edge location (Canny edge identification). Thresholding is the easiest picture division strategy known for its high handling speed, ease in control furthermore more modest extra room . Thresholding technique has ended up being fruitful in partitioning pixels into a few classes

to recognize objects from foundation . It very well may be arranged as bi-level or staggered relying upon the number of picture fragments. Bi-level thresholding, fragments picture into two unique locales . Multi-thresholding on the other hand, fragments picture into foundation and various articles. It is particularly significant in portioning multi-hued and lopsided foundation brightening . Since the fundus pictures are shaded, isolating the red, green and blue channel is captivating because of the way that different channel features different life systems of the eyes Most mechanized PC helped glaucoma location performs division on fundus pictures, confronted limitation issue. Accordingly, this presented mistake in the estimations and thusly in the analysis The focal point of this examination Crossing over Quantitative and Qualitative of Glaucoma Detection