***ABSTRACT***

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| **Title of the Project :** | Glaucoma Detection Using Convolutional Neural Networks |
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**Abstract**

Glaucoma is often linked to a build-up of pressure inside the eyes. Glaucoma tends to ruin families and one usually doesn’t get it until later in life. The increased pressure in eyes, called intraocular pressure, can damage the optic nerve, which sends images to the brain. If the damage worsens, glaucoma can cause permanent vision loss or even total blindness within a few years. Most people with glaucoma have no early symptoms or pain. One must visit the eye doctor regularly so they can diagnose and treat glaucoma before one has long-term vision loss. If a person loses his vision, it can’t be brought back. But, lowering eye pressure can help keep the sight that he has. Most people with glaucoma who follow their treatment plan and have regular eye exams are able to keep their vision. Glaucoma is a chronic and irreversible eye disease, which leads to deterioration in vision and quality of life. we develop a Deep Learning (DL) with convolutional neural network for automated glaucoma diagnosis. Deep learning systems, such as convolutional neural networks (CNNs), can infer a hierarchical representation of images to discriminate between glaucoma and non-glaucoma patterns for diagnostic decisions. The model is trained with the ROI of RIGA, DRISHTI-GS1 dataset. The Network architecture used gives great accuracy. A graphical user interface is used to diagnose the condition of test images and give a graphical analysis of the patients.