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Problem Statement :- To detect the cataract of the eye in early stages of a patient having family medical history of cataract (inherited) need to check the eyes frequently. An AI based model that can detect the cataract with high accuracy will be helpful for the ophthalmologist and the patient.

Dataset:-Cataract eye images dataset from camera images (scrapped from Bing)

Cataract is a common eye condition characterized by clouding of the lens, leading to blurred vision and eventually blindness if left untreated. Early detection of cataracts is crucial for timely intervention and treatment. In this project, a deep learning-based approach using Convolutional Neural Networks (CNNs) to automate the detection of cataracts from medical images.

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- **Preprocessing:-** Standardizing the acquired images, performing data augmentation techniques to increase the diversity of the dataset, and preparing the data for training.
- **Model Architecture:-** Designing and implementing a CNN architecture suitable for cataract detection. Experimenting with different architectures, including variations of CNNs such as ResNet, VGG, and Inception, to determine the most effective model.

- **Training:-** Training the CNN model using the prepared dataset and optimizing hyperparameters to achieve optimal performance.

- **Evaluation:-** Evaluating the trained model on a separate validation dataset to assess its accuracy, sensitivity, specificity, and other performance metrics.