

Title: MobileNet-Eye: An Efficient Transfer Learning for Eye Disease Classification

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Abstract: Precisely and promptly diagnosing eye illnesses is crucial for preventing and managing them. Transfer learning shows potential for automatically identifying different eye diseases. This is beneficial for avoiding and addressing eye issues. Enhanced computer vision has significantly benefited eye doctors by allowing computers to assist them extensively. We researched transfer learning strategies to address three eye issues: uveitis, Eyelid (Lid), and Healthy eyes. We examined the performance, precision, and efficacy of 3 popular pre-trained computer algorithms (MobileNetV2, ResNet50, EfficientNetB7) in detecting eye disorders. We utilized 3,000 images of eyes for this task: 1000 images of healthy eyes, 1,000 images of eyes affected by uveitis, and 1,000 images of eyes with Lid problems. MobileNetV2 was the most precise model, achieving a 96% accuracy in detecting eye disorders. EfficientNet-B7 achieved a 95% accuracy, whereas ResNet-50 had a 94% accuracy.

Keywords: Eye Problem , Convolutional Neural Network , Lid Disease , Uveitis Disease , Healthy Disease

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