Giving World Its Lost Vision

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Origin of the creative idea

In the modern world scenario, Artificial Intelligence is breaking through limits and showing newer ways to improve human efficiency be read by summarizing PDFs or by answering questions on the go.
However this development is just making life comfortable while it could be employed to improve life expectancy.

Project vision and mission

01. To be able to create a Machine Learning and Computer Vision Model that can take OCT scans and classify if the person has retinal infections or not

02. To understand the model architecture of Efficient Net and be able to train it properly

03. TO deploy it to the world so that it could truly be put to the use it was designed for

Inspiration and creativity

This year, my grandma partially lost her vision and had to get operated for cataract while cataract happens due to age some other retinal diseases are a byproduct of other diseases and have chances of prevention.

Currently about 550 million people are affected by diabetes and this number is expected to rise to 650 million by the end of 2030. 10-15% of these people get haunted by DME(Diabetic Macular Edema) and treatment can stop its progression.
Similarly, Choroidal Neovascularization affect about 15-20% people with HIV(currently ~45 million) and can cured.

Creation Pipeline

01

Choice of Dataset: I have choosen a kaggle dataset

02

Understanding the architecture and implementing it

03

Training the model and plotting loss curves

04

Building an app interface and then deploying it to hugging face

Creation process

First of all I identified my dataset from Kaggle.
Then I chose the model architecture,
understood it and implemented it.
I then trained my model.
I then deployed it for global use.

94%

Validation Accuracy

The best validation accuracy was about 94% with best training accuracy being about 85% and test accuracy being about 88%.
I believe by training the model for a few more epochs might resolve underfitting

Final reflections and future steps

Need to test out my current model on different datasets
Try around with various models
Make it efficient enough so that predictions can be made on the go.

Thank you very much!

My Model