Project Title: Deep Learning Fundus Image Analysis for Detection of Diabetic Retinopathy

Project Design Phase-I - Solution Fit

Team ID: PNT2022TMID36211

Define CS, fit into CC

1. CUSTOMER SEGMENT(S)

CS

Who is your customer?
i.e. working parents of 0-5 y.o. kids

Diabetic patients between the age group of 31 to 45

6. CUSTOMER CONSTRAINTS

CC

There might be possibility of not getting completely accurate results due to overfitting and underfitting in some special and rare cases further examination may be required

5. AVAILABLE SOLUTIONS

AS

Diabetic retinopathy is best diagnosed with a comprehensive dilated eye exam For this exam,drops placed in your eyes widen (dilate) your pupils to allow your doctor a better view inside your eyes. The drops can cause your close vision to blur until they wear off After this, Fluoroscein Angiography and Optical Coherence Tomography tests are performed for diagnosing Diabetic Retinopathy

2. JOBS-TO-BE-DONE / PROBLEMS

J&P

Which jobs-to-be-done (or problems) do you address for your customers? There could be more than one; explore different sides.

The given input image of the patient's retina is analysed and classified using which the class of diabetic retinopathy in the patient's eye is identified

9. PROBLEM ROOT CAUSE

RC

What is the real reason that this problem exists?
What is the back story behind the need to do this job?
i.e. customers have to do it because of the change in regulations.

More than 3.2.million people lose eyesight due to diabetic retinopathy when it is diagnosed in its later stages .If this condition is diagnosed way earlier than before, it can prevent more patients from going visually impaired

7. BEHAVIOUR

BE

What does your customer do to address the problem and get the job done?
i.e. directly related: find the right solar panel installer, calculate usage and benefits; indirectly associated: customers spend free time on volunteering work (i.e. Greenpeace)

Directly related:the stage of diabetic retinopathy in a patient can be diagnosed earlier

Indirectly related: volunteers can help in training the model

Identify strong TR & EM

3. TRIGGERS

TR

Seeing other medical organization easily identifying their patient's problem and providing the appropriate treatment

4. EMOTIONS: BEFORE / AFTER

EM

stressed,anxious >calm,confident
stressed and anxious due the time consumed in the diagnosis

10. YOUR SOLUTION

SL

The collected images of the patients retina is analysed and classified using the image processing and deep learning model throught which the type of diabetic retinopathy can be easily identified

8.CHANNELS of BEHAVIOUR

CH

Patient tries to look up online for what condition they are suffering from

Patient consults a doctor through an appointment offline