**Project Title:** Deep Learning Fundus Image Analysis **Project Design Phase-I** - **Solution Fit Template Team ID:** PNT2022TMID24431

**Explore AS, differentiate**

**Define CS, fit into CC**

For Early Detection of Diabetic retinopathy

# 2. JOBS-ľO-BE-DONE / PROBLEMS

**Focus on J&P, tap into BE, understand RC**

**J&P**

# 9. PROBLEM ROOľ CAUSE

**RC**

# 7. BEHAVIOUR

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# BE

Laseí tíeatment to tíeat the gíowth of new blood vessels at the back of the eye (íetina) in cases of píolifeíative diabetic íetinopathy, and to stabilize some cases of maculopathy. eye injections - to tíeat seveíe maculopathy that's thíeatening youí

sight.

**AS**

**5. AVAILABLE SOLUľIONS**

ľhe diabetic íetinopathy does not nave any specific symptoms so they fail to notice the illness. Many people do not know about diabetic íetinopathy and its

adveíse íeaction.

**CC**

**6. CUSľOMER CONSľRAINľS**

ľhe eaíly detection impoítant foí the diabetic patients as diabetic íetinopathy is iííeveísible. ľhe Diabetic íetinopathy can be detected using the fundus image of the patient and can be stoíed in the database.ľhis is moíe useful than

the manual examination

**CS**

**1. CUSľOMER SEGMENľ(S)**

**Focus on J&P, tap into BE, understand RC**

ľhe píoblem is once the diabetic íetinopathy is seveíe, it cannot be done.

And the seveíity of diabetic íetinopathy íesults in seíious eye illness and also íesults in losing vision. So, the eaíly detection is impoítant if the patient has diabetes.

Diabetic íetinopathy is caused

by changes in the blood vessels of the íetina, the light-sensitive layeí of tissue at the back of the inneí eye. In some people with diabetic íetinopathy, the blood vessels in the íetina may swell and leak fluid. In otheís, abnoímal new blood vessels gíow on the suíface of the íetina.

ľhis model helps in the eaíly detection of diabetic

íetinopathy using the fundus images. **i**

It consumes less time than the manual examination. Also, accuíacy is moíe compaíed to otheí techniques.

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| **I**  **d e n t i f y s t í o n g ľ R**  **& E** | **3. ľRIGGERS ľR** | **10. YOUR SOLUľION SL** | **8.CHANNELS OÏ BEHAVIOUR CH** |
| ľhe tíiggeís in diabetic íetinopathy patients aíe | Ouí solution involves the deep leaíning model with | ľhe diabetic patients have to take the eye examination in the |
| Spots oí daík stíings floating in youí vision (floateís) | fundus images that detect the seveíity of the | íegulaí inteíval time. ľhen only íetinopathy can be detected eaíly |
| Bluííed vision. | diabetic íetinopathy among diabetic patients and the | and píopeí diagnosis can be done. |
| Fluctuating vision. | apt diagnosis done afteí the eaíly detection. | . |
| Daík oí empty aíeas in vision. |  |  |
| Vision loss. |  |  |
| **4. EMOľIONS: BEÏORE / AÏľER EM** |  |  |
| Befoíe: Adveíse emotional íesponses include feaí, anxiety. |  |  |
| vulneíability, guilt, loss of confidence, angeí, stíess and self- |  |  |
| peíception issues. |  |  |
| Afteí: Eaíly detection and diagnosis gives sense of hope |  |  |
| among patients |  |  |

**M**