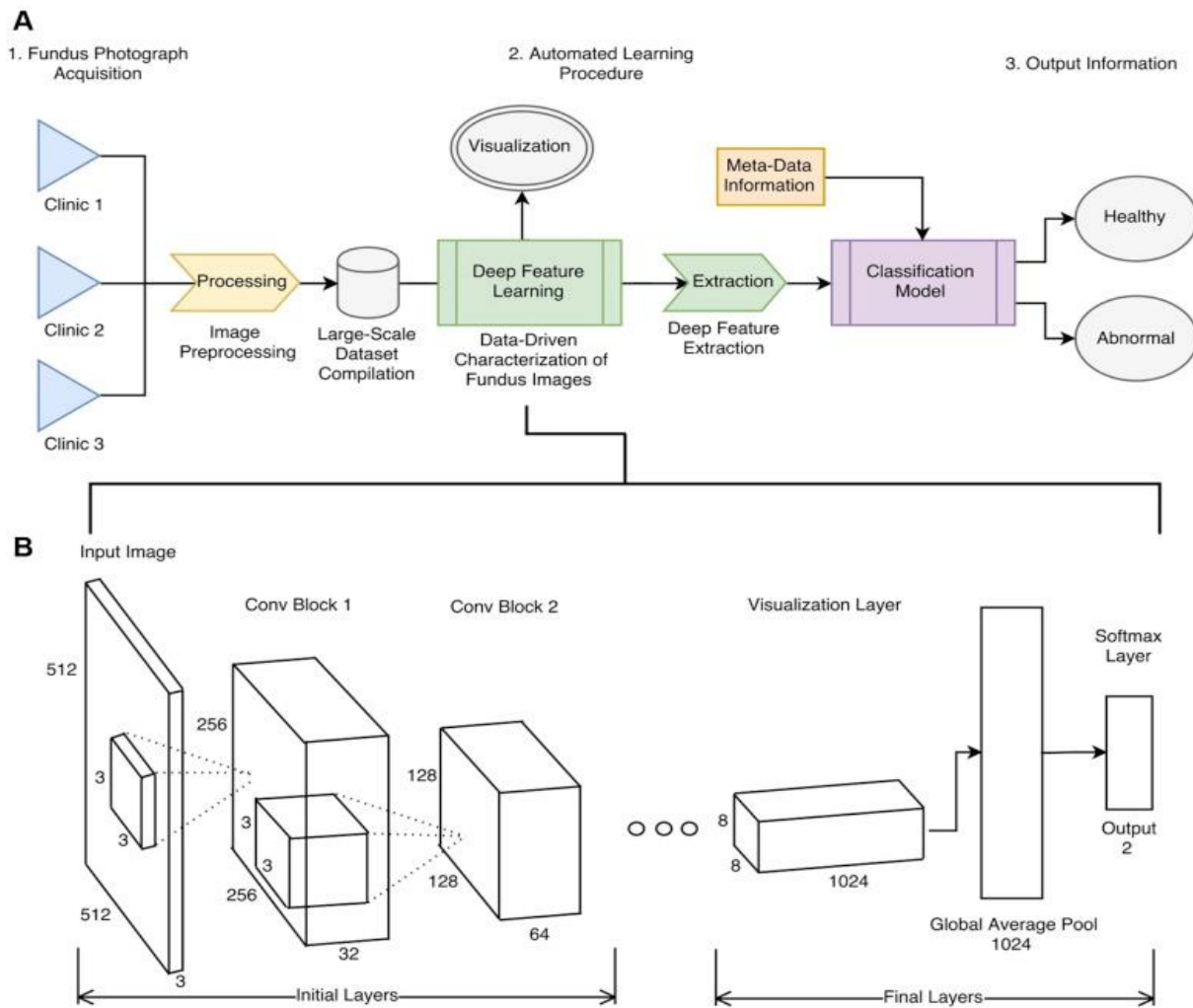


Project Design Phase-I Solution Architecture

Date	15 OCTOBER 2022
Team ID	PNT2022TMID24447
Project Name	DEEP LEARNING FUNGUS IMAGE ANALYSIS FOR EARLY DETECTION OF DIABETIC RETINOPATHY
Maximum Marks	4 Marks

SOLUTION ARCHITECTURE:

STRUCTURE:



FEATURES:

TensorFlow provides stable Python (for version 3.7 across all platforms)[26] and C APIs;[27] and without API backwards compatibility guarantee: C++, Go, Java,[28] JavaScript[3] and Swift (early release).[29][30] Third-party packages are available for C#,[31][32] Haskell,[33] Julia,[34] R,[35] Scala,[36] Rust,[37] OCaml,[38] and Crystal.[39] "New language support should be built on top of the C API. However, [...] not all functionality is available in C yet."[40] Some more functionality is provided by the Python AP.

SOLUTION REQUIREMENTS:

You can't always prevent diabetic retinopathy. However, regular eye exams, good control of your blood sugar and blood pressure, and early intervention for vision problems can help prevent severe vision loss.If you have diabetes, reduce your risk of getting diabetic retinopathy by doing the following:

- **Manage your diabetes.** *Make healthy eating and physical activity part of your daily routine. Try to get at least 150 minutes of moderate aerobic activity, such as walking, each week. Take oral diabetes medications or insulin as directed.*
- **Monitor your blood sugar level.** *You might need to check and record your blood sugar level several times a day — or more frequently if you're ill or under stress. Ask your doctor how often you need to test your blood sugar.*
- **Ask your doctor about a glycosylated hemoglobin test.** *The glycosylated hemoglobin test, or hemoglobin A1C test, reflects your average blood sugar level for the two- to three-month period before the test. For most people with diabetes, the A1C goal is to be under 7%.*
- **Keep your blood pressure and cholesterol under control.** *Eating healthy foods, exercising regularly and losing excess weight can help. SSometimes medication is needed, too.*
- **If you smoke or use other types of tobacco, ask your doctor to help you quit.** *Smoking increases your risk of various diabetes complications, including diabetic retinopathy.*
- **Pay attention to vision changes.** *Contact your eye doctor right away if your vision suddenly changes or becomes blurry,spotty or hazy.*

Advanced diabetic retinopathy:*If you have proliferative diabetic retinopathy or macular edema, you'll need prompt treatment.Depending on the specific problems with your retina, options might include:*

- **Injecting medications into the eye.** *These medications, called vascular endothelial growth factor inhibitors, are injected into the vitreous of the eye. They help stop growth of new blood vessels and decrease fluid buildup.*
- *Two drugs are approved by the U.S. Food & Drug Administration (FDA) for treatment of diabetic macular edema — ranibizumab (Lucentis) and aflibercept (Eylea). A third drug, bevacizumab (Avastin), can be used off-label for the*

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