Project Design Phase-II
Technology Stack (Architecture & Stack)

Date	03 October 2022
Team ID	PNT2022TMID51065
Project Name	Deep Learning Fundus Image Analysis for Early Detection of Diabetic Retinopathy
Maximum Marks	4 Marks

Technical Architecture:

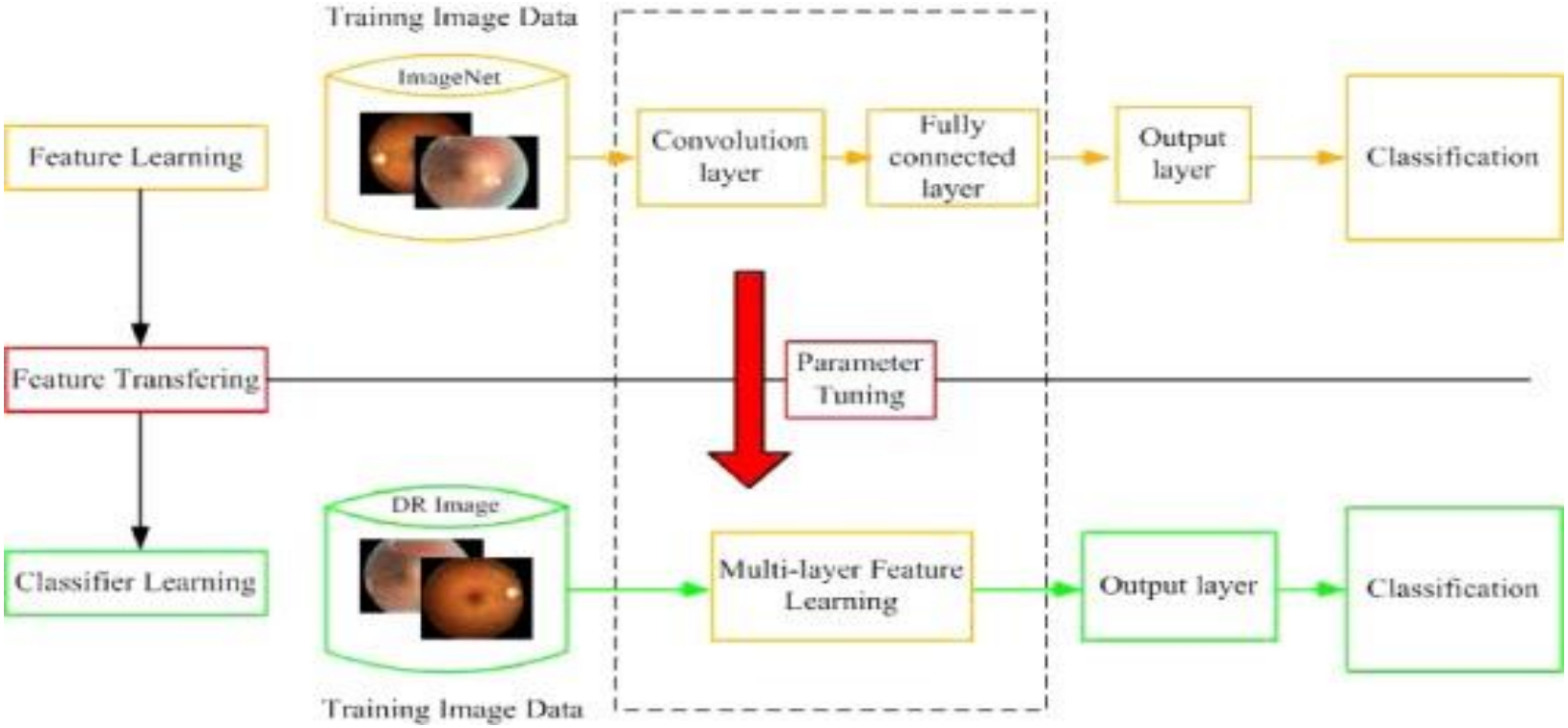

Table-1 : Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	Web UI, Mobile App	HTML, Java, Python
2.	Application Logic-1	Data Preprocessing	Python (Keras,Tensorflow,Numpy)
3.	Application Logic-2	Creating a CNN model and Training	Python (Keras, Tensorflow, Numpy)
4.	Application Logic-3	Implementing Web(UI)	Flask
5.	Database	Collection of retina Image	Folder
6.	File Storage	Storing Data Sets	IBM Cloud Storage
7.	External API-	Interface real time data with our data sets.	Keras (Image Processing)
8.	Machine Learning Model	Trained model	MATLAB (Image Recognition)
9.	Infrastructure (Server / Cloud)	Deployment in cloud Server	Cloud Foundry.

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	Flask and Cloud	Werkzeug
2.	Security Implementations	Secure flag for cookies	SESSION_COOKIE_SECURE.
3.	Scalable Architecture	Micro Service	Micro web application framework by flask
4.	Availability	Easy access to common users through remote devices	Technology used
5.	Performance	Can be able to give accurate results to Patients	Technology used