Requirement Analysis

Technology Stack (Architecture & Stack)

Date	27 June 2025
Team ID	LTVIP2025TMID59820
Project Name	Pattern Sense: Classifying Fabric Patterns Using Deep Learning
Maximum Marks	4 Marks

Technical Architecture:

The Deliverable shall include the architectural diagram as below and the information as per the table1 & table 2

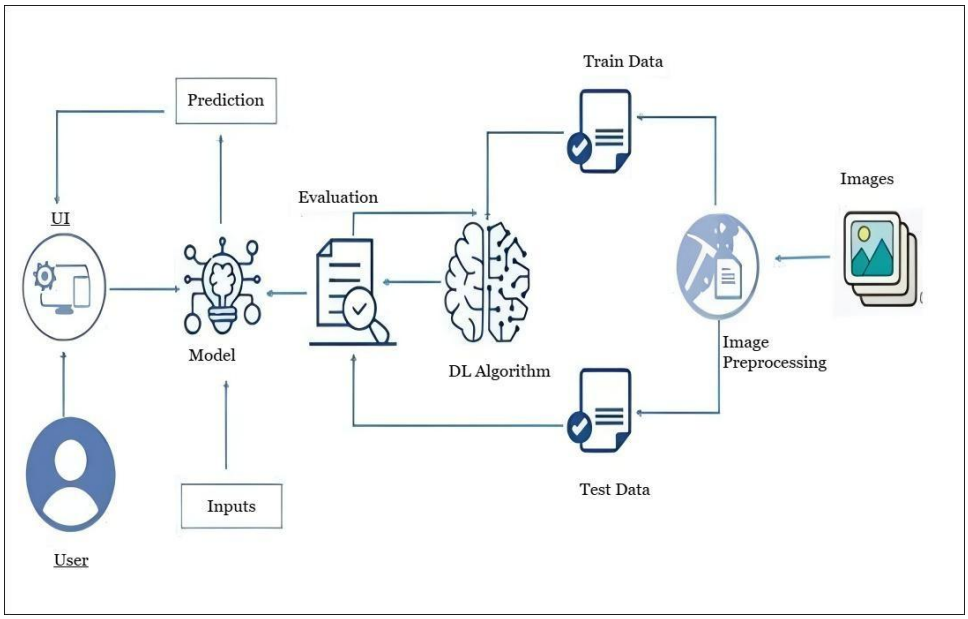

Table-1: Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	How user interacts with application (Web Page)	HTML, CSS, Bootstrap, Flask (Python)
2.	Application Logic	Logic for a process in the application	Python
3.	File Storage	File storage requirements	Stores predicted images in Local Filesystem
4.	Machine Learning Model	Purpose of Machine Learning Model	ResNet
5.	Data	Data used to train the model	Dataset from Kaggle

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	User-Friendly Interface	Simple, intuitive web interface for image upload and result visualization.	HTML, CSS, Bootstrap, Flask (Python)
2.	Real-Time Prediction	Immediate classification of produce as healthy or rotten.	Flask backend, TensorFlow model
3.	Extendable Dataset Suppor	New produce types can be added by updating the dataset and retraining.	ImageDataGenerator, Keras, TensorFlow
4.	Efficient Processing	Optimized ResNet model ensures fast and reliable predictions.	Pre-trained ResNet, Numpy