

Technology Stack (Architecture & Stack)

Technical Architecture:

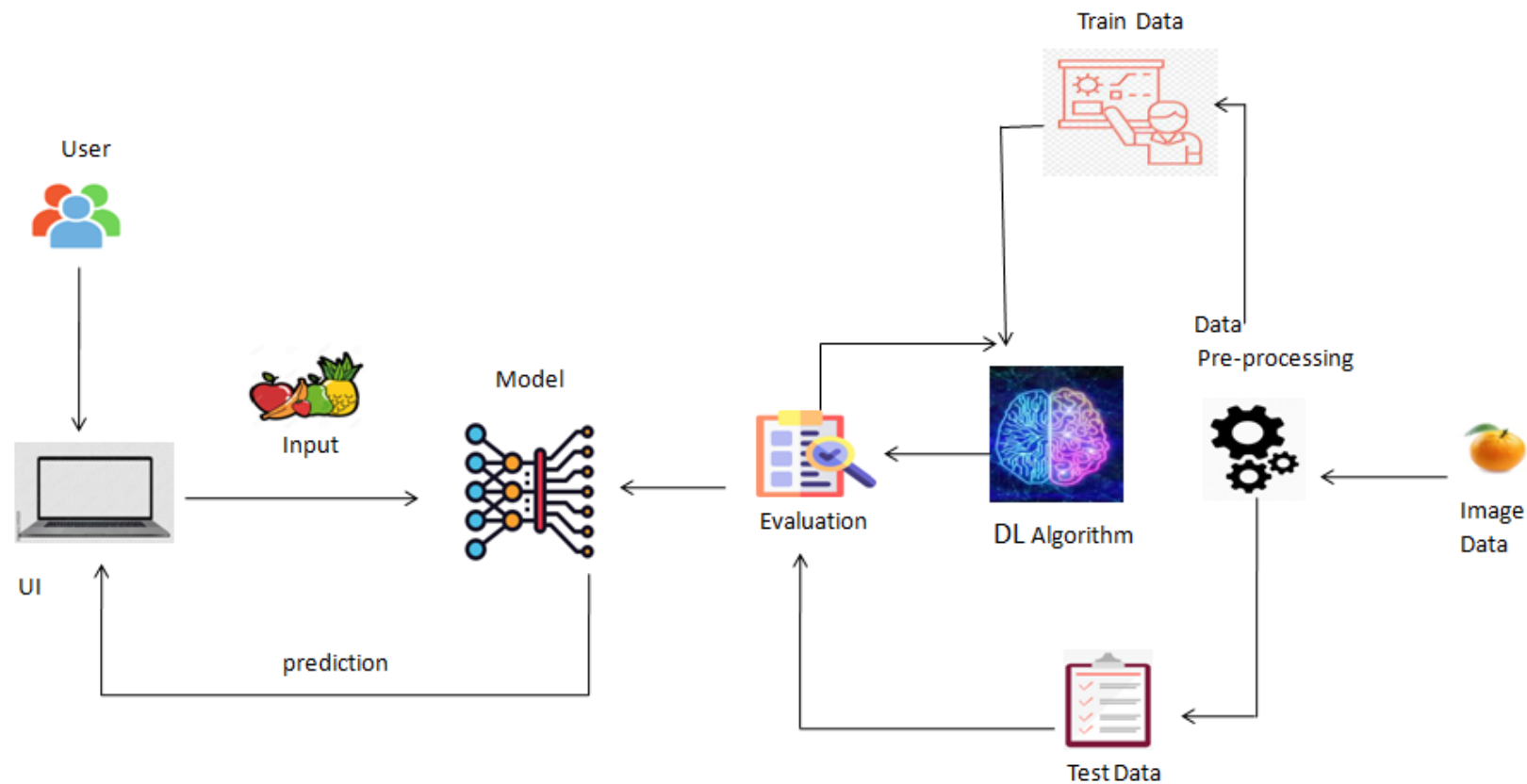


Table-1 : Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	How user interacts with application . To depict the human-computer interaction and communication	HTML, CSS, JavaScript , Node JS
2.	Image Upload	A page to upload images as input	Python
3.	Ingredient detection model	The ingredients used must be identified from the captured image	Machine learning and image processing using python
4.	Calorie consumption monitoring	The software monitors the user's daily calorie intake and alerts them when there is an excess	IBM push notifications
5.	Database	Ingredient information and the relevant calories are kept on file	MySQL
6.	Cloud Database	Backup copies of the applications data are kept and consolidated reports of monthly calendars are	IBM Cloudant

		also kept	
7.	File Storage	A file system is used to keep track of the products consumed each day as the daily caloric intake.	IBM Block Storage
8.	Calorie value consolidation	To determine the calorie counts of components that are saved in the database, a web-scraping API is used	Beautiful Soup
9.	Machine Learning Model	To detect substances, captured photos are analyzed using machine learning algorithms	Object Recognition Model to label ingredients
10.	Infrastructure (Server / Cloud)	The program is deployed to the cloud for use. Configuration of the cloud server	Cloud Foundry

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	Google Colab, VS code, Online Website	Python, HTML, CSS, JS
2.	Security Implementations	Email-based access authentication and Sign in production	IBM cloud App ID services and SMTP algorithms
3.	Scalable Architecture	Applications are updated, bugs are fixed and new features are added in response to user experience and input	Customer feedback, reviews and ratings
4.	Availability	Users should always be able to access the cloud-hosted applications and they should not experience any problems like application crashes	IBM cloud
5.	Performance	Can extend the storage according to our needs	Python, Angular JS