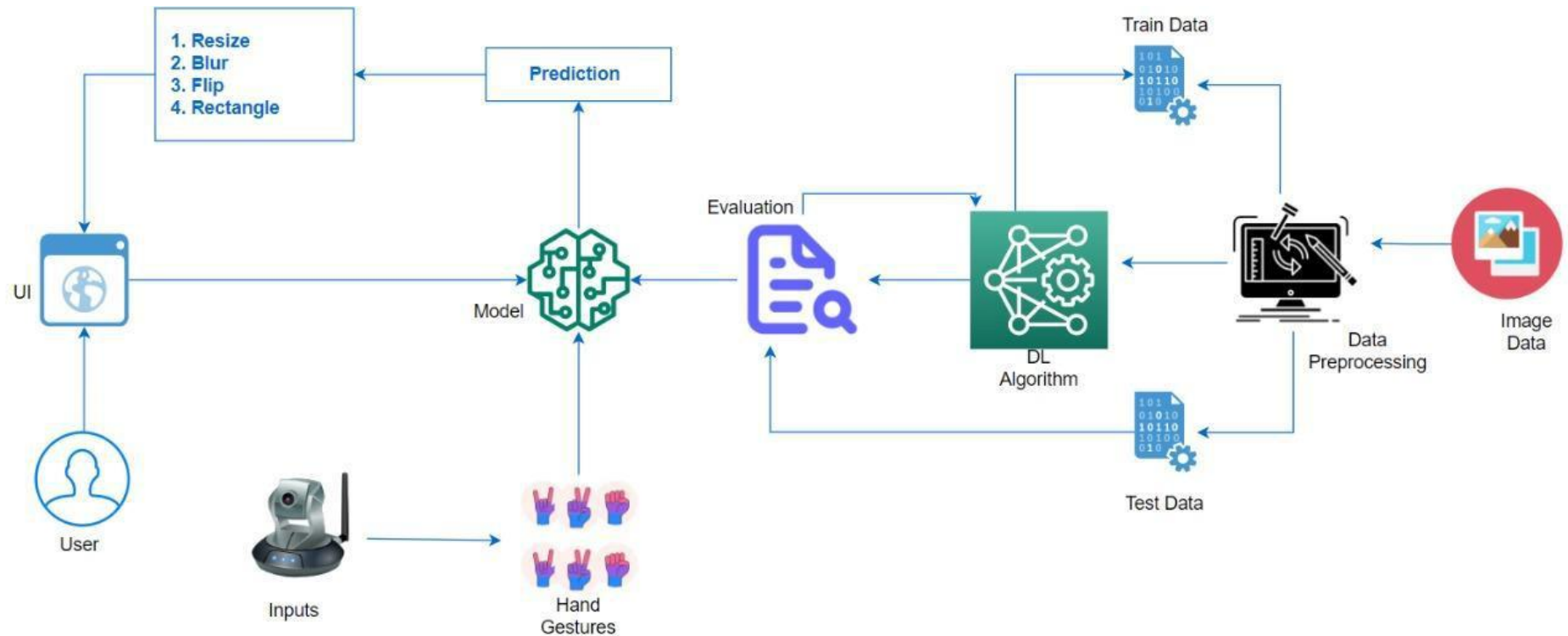


## PROJECT DESIGN PHASE-II TECHNOLOGY STACK (ARCHITECTURE & STACK)

Date	20 October 2022
Team ID	PNT2022TMID17973
Project Name	Project – A Gesture-based Tool for Sterile Browsing of Radiology
Maximum Marks	4 Marks

### TECHNICAL ARCHITECTURE:



**TABLE-1 : COMPONENTS & TECHNOLOGIES:**

<b>S.NO</b>	<b>COMPONENTS</b>	<b>DESCRIPTION</b>	<b>TECHNOLOGY</b>
1.	User Interface	Web UI	HTML, CSS, JavaScript.
2.	<b>Application Logic-1</b> Pre-processing of image	Library files are used to pre-process the input image.	Python, TensorFlow
3.	<b>Application Logic-2</b> Model Building	Constructing a CNN model to detect the gesture.	Python, Keras
4.	<b>Application Logic-3</b> Creating Application	The Application is created to receive gestures as input and to output them.	HTML, CSS, JavaScript
5.	Collecting the Dataset	Dataset of Hand gestures is collected.	From IBM
6.	Cloud Database	The cloud is used to store a user-supplied image.	IBM Cloud
7.	Storage of files	The dataset and source code is stored in files.	Server and Local Filesystem
8.	ML Model	The pre-processed image is identified using the CNN model either by image capture or video segmentation.	CNN Model by Python, Keras

**TABLE-2: APPLICATION CHARACTERISTICS:**

<b>S.NO</b>	<b>CHARACTERISTICS</b>	<b>DESCRIPTION</b>	<b>TECHNOLOGY</b>
1.	<b>OPEN-SOURCE FRAMEWORKS</b>	For model building, package manager and code development	Visual Studio Code, Conda, TensorFlow
2.	<b>BUOYANT</b>	Different surroundings can be used to capture gestures (variable brightness and distance).	OpenCV, TensorFlow
3.	<b>OPERABILITY</b>	Use a highly available server for deployment	IBM Cloud
4.	<b>EXECUTION</b>	The input gesture is predicted using the CNN model in a shorter amount of time.	TensorFlow, Keras
5.	<b>VARIED DATASET</b>	To generate more data from a small no of images, data augmentation is used.	Keras