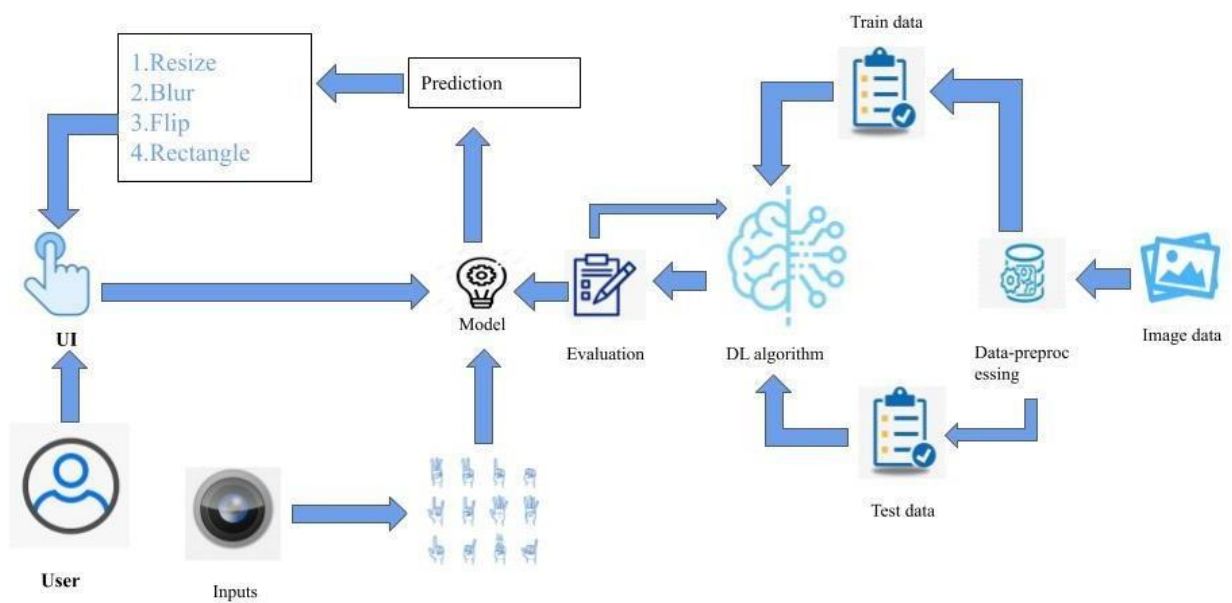


Project Design Phase-II Technology Stack (Architecture & Stack)

| | |
|---------------|---|
| Date | 15 October 2022 |
| Team ID | PNT2022TMID01529 |
| Project Name | A Gesture-based Tool for Sterile browsing of Radiology Images |
| Maximum Marks | 4 Marks |

Technical Architecture:



| S.No. | Component | Description | Technology |
|-------|--|---|------------------------|
| 1. | User interface | Web UI | HTML, CSS, Javascript. |
| 2. | Dataset | Collect or create the hand gesture dataset. | From online |
| 3. | Application logic-1-Data preprocessing. | Import all the library files required for data preprocessing. | Python |
| 4. | Application logic-2- Model building. | Build the CNN model. | Python |
| 5. | Application logic-3- Application building. | Create HTML file | HTML, CSS, Javascript. |
| 6. | File storage | Store the code files and datasets. | System storage. |
| 7. | Deep learning | Used to analyze visual imagery, image processing, video capture and analysis including features like face detection and object detection. | CNN, Opencv |
| 8. | Cloud database | Train the model on IBM cloud | IBM cloud |

APPLICATION CHARACTERISTICS:

| S.No. | Characteristics | Description | Technology |
|-------|------------------------|---|---|
| 1. | Open-Source frameworks | Application development, data pre-processing. | Visual studio code, anaconda navigator. |
| 2. | Security | It identify the gesture action only when the hand is in front of the camera. | Opencv |
| 3. | Scalable architecture | It can be used in any environment and is able to identify the gesture actions in both bright and dim backgrounds. It can recognize the gesture action upto 5 meters distance between the camera and person. | Opencv |

| S.No. | Characteristics | Description | Technology |
|-------|-----------------|--|-------------------------|
| 4. | Availability | It is used to reduce the possibility of spreading infections, avoid the delay and the focus of doctors on surgery is improved. | Artificial intelligence |
| 5. | Performance | Rapid response to the gesture actions. | CNN model |