TEAM ID: PNT2022TMID00692

SOLUTION ARCHITECURE

A Gesture-based Tool for Sterile Browsing of Radiology Images

PROJECT DESCRIPTION:

Humans are able to recognize body and sign language easily. This is possible due to the combination of vision and synaptic interactions that were formed along brain development. In order to replicate this skill in computers, some problems need to be solved: how to separate objects of interest in images and which image capture technology and classification technique are more appropriate, among others.

A Gesture based Recognition System used for detecting any kind of Gestures which when the given input Gesture matches with the trained image.

SOLUTION:

User interacts with the UI (User Interface) to upload the image as input. Depending on the different gesture inputs different operations are applied to the input image. Once model analyses the gesture, the prediction with operation applied on image is showcased on the UI. This system is a real time hand-tracking recognition technique based on the motion. Hand gesture interface provides:

i) Ease of use- The system allows the surgeon to use his/her hands, their natural work tool.

ii) Rapid reaction- Nonverbal instructions by hand gesture commands are intuitive and fast.

PROCEDURE:

- Data Collection.
  - Collect the dataset or create the dataset
- Data Pre-processing.
- Import the Image Data Generator library
- Configure Image Data Generator class
- Apply Image Data Generator functionality to Trainset and Test set
- Model Building
  - Import the model building Libraries
  - Initializing the model
  - Adding Input Layer
  - Adding Hidden Layer
  - Adding Output Layer
  - Configure the Learning Process
  - Training and testing the model
  - Save the Model
- Application Building
  - Create an HTML file
  - Build Python Code

SOLUTION ARCHITECTURE: