**SOFTWARE REQUIREMENTS AND INSTALLION STEPS**

**REQUIREMENTS FOR TRAINING THE MODEL**

* Python 3.6 and above
* OpenCV 3.1
* PyCharm IDE 2020 version 2.3
* Android Studio version 4.1
* Webcam (for testing on laptop/desktop)

**REQUIREMENTS FOR RUNNING THE MOBILE APP**

* Android OS version 8 and above
* Minimum 4GB RAM
* Minimum 16MP Resolution front camera (for testing on android device)
* 30 MB Memory space for the app
* Internet Connectivity

**SOFTWARE INSTALLATION STEPS**

Installing Python –

Step 1) To download and install Python visit the official website of Python

<https://www.python.org/downloads/> and choose your version. We have chosen Python

version 3.6.3

Step 2) Once the download is complete, run the exe to install Python. Now click on “Install Now”.

Step 3) You can see Python installing at this point.

Step 4) When it finishes, you can see a screen that says the Setup was successful. Now click on "Close".

Installing PyCharm –

Step 1) To download PyCharm visit the website <https://www.jetbrains.com/pycharm/download/> and Click on the "DOWNLOAD" link under the Community Section.

Step 2) Once the download is complete, run the exe to install PyCharm. The set-up wizard should have started. Click “Next”.

Step 3) On the next screen, Change the installation path if required. Click “Next”.

Step 4) On the next screen, you can create a desktop shortcut if you want and click on “Next”.

Step 5) Choose the start menu folder. Keep selected JetBrains and click on “Install”.

Step 6) Wait for the installation to finish.

Step 7) Once installation finished, you should receive a message screen that PyCharm is installed. If you want to go ahead and run it, click the “Run PyCharm Community Edition” box first and click “Finish”.

Step 8) After you click on "Finish," the Following screen will appear.

Installing Android Studio –

Step 1) Head over to the link to get the Android Studio executable or zip file.

Step 2) Click on the download android studio button.

Step 3) After the downloading has finished, open the file from downloads and run it.

Step 4) It will start the installation, Click on next.

Step 5) Once “Finish” is clicked, it will ask whether the previous settings need to be imported [if android studio had been installed earlier], or not. It is better to choose the ‘Don’t import Settings option’. Click the OK button.

Step 6) This will start the Android Studio.

Step 7) After it has found the SDK components, it will be redirected to the dialog box .

Step 8) Now it is time to download the SDK components. The Android Studio software has been successfully configured. Now it’s time to launch and build apps. Click on the Finish button to launch it.

Installing the Android app –

Step 1) In the Android menu, go to Build > Build Bundle(s) / APK (s).

Step 2) Click the “Build APK(s)” option. Android Studio will start building the APK for you.

Step 3) Once done, a pop-up on the bottom right will notify you of its completion. Click the 'locate' button in this dialog.

Step 4) Save this generated APK file in your Android Smartphone.

Step 5) On your phone, install the APK and set the necessary permissions as “Allow” for the app.

Step 6) Once installation is complete and all permissions are configured, Start using the app!