**Avatarify**

**Goal**:

To visualize and reciprocate the motion of driving video into custom characters.

**Model brief:**

* Model approach is to work with animation characters and is based on first order motion model although the model is also compatible with third party application support.

**Vision towards goal:**

* Our mission is to automate any custom characters (Human + Anime ) in 3D with/without a webcam.

**Research involves around the model:**

* We implemented this model for custom characters to visualize with the help of a webcam.
* Model is available in both the versions like GPU & CPU.
* Model needs client-server workflow to work upon.
* Initially the model is available only on webcam functionality but we edited the model code and made it working on videos which divide the video into frames and process the frame in facial alignment with the help of 68 landmark.dat files.
* We can change the characters up to any resolution where it is working.

**Implementation towards model:**

* We have set up all the necessary tools and models in progression of this model.
* We have tested with pre-trained files to automate characters on local with and without camera It is working on.
* After connection , we have to connect the required file to execute which gives us visualization in output.
* We have also approached this model for custom characters and tested on CPU where results are not so good but if we go with GPU its works well.

**Code implementation:**

* Clone the model : <https://github.com/alievk/avatarify.git>
* Go inside the model directory : cd avatarify
* Install model dependencies with sudo privelege by : bash scripts/install.sh
* Before installing the dependencies please install the latest miniconda for this model as model will run on conda enviornment only so for this you can go through the model discription where you can find the link to download and install Miniconda (Python 3.8 V)
* As model is based on vox dataset so we have to download the dataset and put it into the same directory without extraction (avatarify directory (don't unpack it)).
* The model is also working with videos + camera so for videos we have to set the path of video in the code as in videocapture(‘path of the video) and for cam we just need to change it with index called 0 or 1.
* We can also change the setting in scripts/settings.sh as per our requirements.
* To execute , we have to run only the following command in the terminal :bash run.sh
* We can also customize the model with third party application like skype , zoom but for this we have to change the setting in the application which was clearly mentioned in the model discription.

**Our strategy for model :**

* We need to set up all the modules in the current directory to make it work.
* Model is not generating any file but it is transferring the data from one module to another.
* We have also set up the module on local to make working with custom characters but it requires GPU connection for smooth connection and results.

**Limitation:**

*Model has different Limitation describes as follow:*

* Model is worked on every platform only, we have better configuration on local only.
* Model needs a client server connection.
* Model code is edited for audio video effects but it is impacting results so we have use hardware webcam for this model.
* Model is also only worked better on cropped videos like FOM.