Winter of Code 1.0

VCallZer

Details

1. **Student Name:** Akshita Dixit
2. **Mentor Name:** My mentor abandoned me :'(
3. **Short Description:** The idea behind this is to facilitate a video calling service built with python sockets(IPv4) and Open-CV, which replaces the users voice by a robotic/AI voice and the video by a neon projection of the users face on a black screen for anonymity purposes.
5. **Repository:** https://github.com/akshitadixit/VCallZer

Description

Learning Context

I learned a bunch of stuff during this period. The primary one being Socket programming and the use of dlib and Open-CV modules in python. I am currently working with pyaudio to be able to modulate the voice of the user and transmit it without visible lag. Moreover, initially my mentor suggested that I take up the Deep Learning series by Andrew NG, which I am still studying at a slow but continuous pace. I am glad I was able to stick to it throughout.

Technical Details

The backbone of the project are two sockets, a server socket and a client socket, connected via IPv4 and sending and receiving packets of images. These images are actually frames from the live video stream captured on the user's end via cv2. The frames are bundled with their size and then extracted on the other end accordingly. The fancy user face layout in green, opposed to the black screen is generated by extracting the facial landmarks from each frame using dlib's frontal face detector that works on various pre-trained models [for this project I used Helen's dataset that detects 81 landmarks on a person's face].

Future Scope

The project is currently working for one-to-one video calls, but can be scaled to multi-user video calling features like google meet, but anonymous. The connection established via sockets over IPs can be modified to some other secured procedure and an entirely anonymous meetings room can be created.