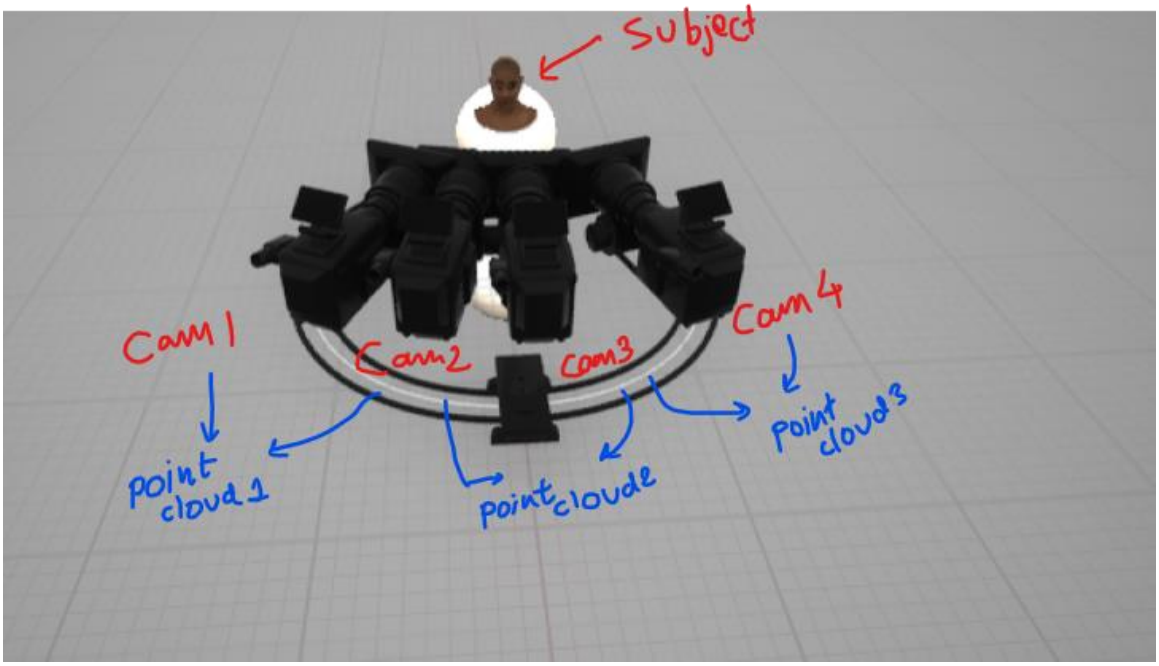
Merge Point clouds from stereo pair reconstructions

Background :

- Face reconstruction is a scanning technique for creating a high quality 3d facial geometry from multiple images.
- Accurate reconstruction can be done by arranging multiple cameras in a circular fashion around the subject and constructing point clouds from each camera pair. This is called pair-wise stereo reconstruction.



- Above figure shows point clouds generated using images from camera pairs. These point clouds then need to be merged and converted into a single mesh for usage.

Goal :

- Given multiple point clouds from different stereo camera pairs, corresponding images and the camera calibration properties(projection matrices) merge the point clouds into a single mesh.

Expected outcome :

- Single face mesh by merging multiple point cloud meshes from all views.

- Send the obj file of converted face mesh and link of the github repository.

Reference :

- High-Quality Single-Shot Capture of Facial Geometry (Section 2.3)
- Camera Calibration and Projection matrices

Data Required :

- Point Clouds, Camera Images and Calibration Parameters