

Our current Flagship product, the **OptiVirtual Try-on Clothes and Accessories** will **MAKE** shopping an easy, fast and fun experience. **SOME** of the features that add the cherry on top will be, enabling the **ESTIMATION** of the correct fit of clothes and accessories. We would also enable the **CUSTOMERS** to select the right clothes and accessories based on their preferences or the trend which is currently going on. The self checkout and **RECOMMENDATION MODULES**, in offline retail shops can save **TIME** and **MONEY** by reducing long queues in billing and trial **ROOMS**. In an online scenario, we would be able to save the retailer a lot of **TIME** and reduce costs in supply chain operations. We use **AI, AR and VR** technologies to personalize the shopping experience of our **CUSTOMERS**. We intend to have **MULTIPLE** products which solve this purpose.

Algorithm

When a user's face is detected by the **CAMERA**, our engine **PERFORMS** the following steps to generate the **AUGMENTED** face **MESH**, as well as center and region poses:

1. It identifies the center pose and a face MESH.

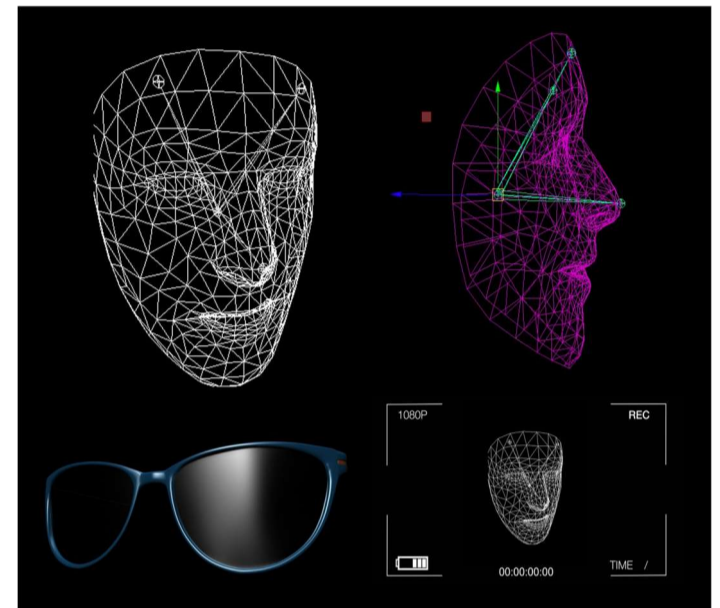
- The center pose, located behind the nose, is the physical center point of the user's head (in other words, inside the skull).
- The face MESH consists of hundreds of vertices that **MAKE** up the face, and is defined relative to the center pose.

2. The AUGMENTEDFACE generated uses the face MESH and center pose to identify face region poses on the user's face.

These regions are:

- Left forehead (**LEFT_FOREHEAD**)
- Right forehead (**RIGHT_FOREHEAD**)
- Tip of the nose (**NOSE_TIP**)

These **ELEMENTS** -- the center pose, face MESH, and face region poses -- **COMPRISE** the **AUGMENTED** face MESH and are used by **AUGMENTEDFACE** APIs as positioning points and regions to place the assets in the app.



Implementation

Our Virtual try on allows you app to **AUTOMATICALLY** identify different regions of a detected face, and use those regions to overlay assets such as Jewellery and Spectacles in a way that precisely **MATCHES** the contours and regions of an individual face. In order to achieve this, we overlay textures and **3D MODELS** on a detected face, using face detection libraries and face feature recognition libraries. We also use face orientation detection to orient the assets in **3D** space.

