**FACE RECOGNITION SYSTEM INVARIANT TO PLASTIC SURGERY**

**ABSTRACT:**

The importance of biometric authentication is increasing rapidly because it verifies the claimed user identity. There are different types of biometrics available such as finger print, facial scan, retinal scan, voice print. From these, face is one of the most commonly used biometric. Hence the development of face recognition system seems to be useful. There are many techniques people use to evade their identification. Plastic surgery is one of them. Plastic surgery is a surgical procedure to correct the facial anomalies or to improve the appearance of the face. Matching of images before and after the plastic surgery process is the difficult task for automatic face recognition systems because of the wide variations created due to plastic surgery. Facial plastic surgery changes facial features to large extend and thus creating a major problem to face recognition system. This paper proposes a method to match before and after surgery images so one can prove the identity. For this image is divided in to different granules and features are extracted using SIFT and Efficient LBP to get different information’s from the face granules. The features are selected using SWARM Optimization feature selection algorithm.

**Keywords:** Plastic surgery, SIFT, Efficient LBP, Local binary pattern, SWARM Optimization Algorithm.