

# **1 A Humanlike Predictor of Facial Attractiveness: Summary**

The paper revolves around estimating human facial attractiveness by focusing on the face structure, features and other notable characteristics to define it as an attractive face. Many hypotheses have been put forward; cognitive, evolutionary and social perspectives describing the preferences for facial beauty. Many say averageness is the answer for facial attractiveness, many say symmetry is more important than averageness and some say with extreme features, some faces would be more attractive than average faces and some facial qualities are universally attractive to people. According to evolutionary origins, facial traits signal mate quality, imply reproductive success and parasite resistance but another mechanism explains preferences through a cognitive perspective. Another view suggests that facial attractiveness originates in a social mechanism. A different approach where a genetic algorithm has been considered to examine the relationship between age, facial attractiveness and averageness keeping the primary goal to develop a machine that can predict facial attractiveness like humans; building a machine by acquisition, preprocessing and representation. A flexible yet sophisticated learning to experiment on algorithms using a proper image-feature selection strategy. For testing the similarity between human and machine, euclidean distance is computed between all raters(human and machine) and for display, PCA was used to convert it into a 2D plot. The paper captures basic human psychophysical biases characterizing the perception of facial attractiveness. They also ran computer simulations to create averaged virtually morphed faces with many numbers of components and have let the machine predict the attractiveness. An argument still continues that very attractive are not averaged, by averaging many features get changed including both geometric and symmetry. It is surprising to see a machine explicitly to capture an operational performance criteria.