

# Summaries of Research Papers

**Lucy Nwosu et al [1]** this paper proposed the working related to the facial expressions based on the deep convolutional neural networks. In the face two main focused features are eyes and mouth both are taking part in judging the facial expression. When both terms integrated then the final output is emerging out from the database. In this two datasets are formed for every person first one is JAFFE and second one is CK+ both help us to recognize the face of male and female. Against every person, both databases are designed for getting the result. This gives 97.05% accurate result.

**Grigory Antipov [2]** progress the artificial neural networks (deep learning) boosted the work to recognize the face of human as well as estimating the age of the person, that are shown in the picture. Deep learning and CNN has currently become the model of the human image based object. Anthropometry based features are play the essential role to judge the fiducial points with the help of topological differences that helps to calculate age factor or understand the gender in the picture. Cranial shapes help to evaluate age up to the 18 years after that the cranial shapes gives not accurate results. Different techniques like ICP, OLPP, PCA etc. helps to find almost accurate results.

**Dipesh Vaya & Teena Hadpawat** work to recognize the face by using PCA approach with the Combination of Euclidian, city block and Mahalanobis distance. The appearance and feature of face are detected with the help of Geometric and Photometric methods. Almost matching image face is selected from the database. Image I s classified by different distance measuring factors. PCA (principle component analysis) is the foremost eminent technique for recognition and comparison. The Eigen face method is for the compression or information reduction way in detection method. PCA with Euclidian distance gives 80% accuracy while PCA with Mahalanobis distance shows 92.5% accuracy during face recognition.

**Huany et al [3]** proposed method that is space search optimized polynomial neural network classifier (PNNC) based on data processing and simultaneous turning strategy. On the other hand, he also introduce the concept of fuzzy wavelet polynomial neural networks. Above methods able to train the system to recognize the eye region based on face image in database. Torricelli et al. had to proposed eye blinking process. Lee et al. proposed threshold values to find eye closing states. Test on still imaging applied and it give 94.5% good result but not give efficient result on moving images.

**Ishita et al [4]** proposed proposed different methods to explore the feasibility of implementing the raspberry pi based on face and age prediction using conventional face detection and recognition techniques like Haars detection and PCA. Use this method because it enhance the security level of any E-devices. Haars feature based detection is applied on the image the positive and negative images are extracted out. Then all possible extracted images are used to calculate and judge the plenty of matched feature and PCA used Eigen vector or values method to extracted the feature that are matched with the image in the database. If image matched then the pic is glow and show result "present" on screen.

**Dr.Rajesh A [5]** works on the prediction of human gender. Many researches are made for the detection of human face but this paper explain the method how to investigate the human gender. Weber's local descriptor used for sexual orientation acknowledgment. It takes critical properties and judge the human gender. Neural network classifier also helpful in this research to disclose the way to investigate the human gender (male or female).Face Granulation highlights and segregate the nearness varieties and match data from the given database and predict the result. After this, the system gives good results.

**Momotaz begam and M.imdadul [6]** works Human face detection using linear regression, PCA, Clustering, Fuzzy logics and Computer vision to judge face and age of the human with the help of the machines. Fuzzy C-means clustering work on human face and gives 92.5% results. Nodes and Eigen vectors helps in these techniques to evaluating the data the Gabor wavelet also helps to find the face of human and aging factors that appears on the face of human. The Discrete wavelet transformation turns the result 94.5% in the face detection method.

**Mourad et al [7]** explain methods like PCA, GA, DCT to investigate the human features and aging features to predict the age. In this research paper novel based technique using Genetic Algorithm to evaluate the sections of the human face. Genetic Algorithm helps us to find the face form the given database and selected the outputs and the extracted data from the output of selection is cross over and almost matched data is selected out from the database and the selected image mutation is applied on it. DCT in it is used to judge the features of human form database, gives almost better rarest, and DCT helps to predict the human age by the help of frequency lines.

**Priya et al [8]** introduce deep neural networks that are helpful for face detection convolutional neural networks (CovNets) deep networks that has been proved the successful for matching the face features of the person. Deep neural networks is human inspired algorithm to design patterns and investigate the result and its accuracy level is up to 97.45% good to judge the face of human. Nodes help to design pattern. DNN and CovNets makes the process lighter and faster.

**Anjith George et al [9]** introduced Wide Multi-Channel Presentation Attack detection on database which contain the wide variety of 2D and 3D pictures and face is recognized and after all steps results are disclose Presentation attack detection, CovNets, Anti- spoofing, multi-channel sensor use in this research paper. PDA provide visible spectrum images means also working on the moving images and grayscale images also detected by this technique. This research gives the better end better result for achieving our targeted goals. Works on still as well as moving images and the accuracy rate is much better than all previous researches.

**Sudha et al [10]** works on deep learning neural networks and investigate the images at every angle or perspective of the face and output gets out after testing is ones that are more accurate. Datasets are formed in this technique different datasets are used to find out best one result from the database. Yale faces, or face, labeled faces in the wild from the database is detected and extracted good results. Eigen values, local binary patterns, CNN is used for face detection problem.

## **Conclusion:**

From the above area of study, I am able to understand the worth of that particular topic. Now I apply different features extraction techniques like PCA, haarscascading and neural networks. So, working criteria of above named techniques is implementing in our project. Those ways help to construct our topic of project. Through these, we are able to predict the gender and age of the person who is in the picture or standing in front of the camera. Above techniques collectively gives much efficient result to us.

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