**Ensemble of texture descriptors for face recognition obtained by varying feature transforms and preprocessing approaches**

**Merits:**

* We propose a pattern perturbation approach based on the pre-processing of the input image using different enhancing methods. For the resulting pattern (an enhanced image.
* A descriptor is extracted and used to train a classifier; the three preprocessing techniques used in this work.
* The extracted feature vector , and each transformed vector is used to train a classifier. The four feature transform techniques used in this work .
* Preprocessing procedure (PreP): no preprocessing (NO), Adaptive single scale retinex (AR), Anisotropic smoothing (AS), and Difference of Gaussians (DG).

**Demerits:**

* We show that it is possible to further improve the performance of the ensemble using patterns perturbed by different feature transforms.
* We test a different texture descriptor, the Monogenic Binary Coding [12] (MBC). The scores based on MBC are included in our ensemble, and the recognition performance is better than that obtained by the stand-alone version of MBC.
* The developed fusion between the ensemble of POEM and MBC obtains, to the best of our knowledge, the highest mean accuracy in the FERET dataset.

**Face Recognition Algorithms: A Review**

**Merits:**

* The face is an important part of human being which represents the unique identity

emotion and age.

* Quick and easy recognition of a person is possible through one’s face. Face recognition is one of the most preferred technologies for biometric identification and verification of individuals.
* It is an efficient and more effective technique as compared to voice, iris, fingerprint, ear and hand gesture.

**Demerits:**

* Over the years after several researches, face recognition became one of the most studied research areas in the field of computer vision
* In attendance management too face recognition is evolving as it requires bare minimum efforts.
* Moreover, it gets the better of other biometric techniques and data acquisition as the techniques which rely on hand gesture and fingerprint could turn useless if epidermis tissue gets damaged.

**Towards a Deep Learning Framework for Unconstrained Face Detection**

**Merits:**

* Detection and analysis on human subjects using facial feature based biometrics for access control, surveillance systems and other security applications have gained popularity over the past few years.
* The proposed MS-FR CNN approach is evaluated on two challenging face detection databases and compared against numerous recent face detection methods

**Demerits:**

* More recent work on face detection has tended to focus on using different models such as a Deformable Parts Model (DPM).
* The sampling strategies and cost sensitive learning to address the issue of expectation imbalanced .
* extended this work by incorporating group sparsity in learning which landmarks are the most salient for face detection as well as incorporating 3D models of the landmarks in order to deal with pose

**Face Recognition Method for Online Exams**

**Merits:**

* Perform feature extraction process used in face recognition
* Learn the basic principles of facial recognition using the Eigen Face method
* Computerize student attendance so that it is more valid and easier in controlling**.**

**Demerits:**

* Attendance activities that have been running so far have used the system but there are still weaknesses,
* namely accuracy in ensuring that the student who does it himself or other parties who do attendance and the teacher only looks at the student login activities.
* Face verification is a process of recognizing and matching faces. The use of biometrics for recognition systems has the aim of increasing human comfort and security in the scope of personal privacy and in a wider scope such as for an agency.

**Face Forensics: A Large-scale Video Dataset for Forgery Detection in Human Faces**

**Merits:**

* The technique uses a mouth retrieval approach that selects the mouth interiors from a mouth database based on the target expressions.
* This person Speciﬁc mouth data base is built upon the tracked videos in the preprocessing step ( contains images of the target video). The mouth database is one of the most limiting factors of the Face2Face approach.
* How well do current state-of-the-art approaches perform in a realistic setting both for forgery detection and segmentation.

**Demerits:**

* Inadditiontoclassiﬁcationandevaluation,theself-reenactmentdatasetallowsusto evaluate generative methods. In particular, the generation process can start from an already well-structured fake, which helps us focus on reﬁnement in a possibly supervised environment, a problem resembling synthetic-to-real translations .
* Video Face Replacement, Dale , presented one of the ﬁrst automatic face swap methods.
* Using single-camera videos, they reconstruct a 3D model of both faces and exploit the corresponding 3D geometry to warp the source face to the target face.

**FacedetectionbasedonDeepConvolutionalNeuralNetworksexploitingincremental facial part learning**

**Merits:**

* At ﬁrst, we trained a fully- convolutional CNN comprised of seven convolutional layers with images of size 32 × 32, which is shown in table.
* Both datasets include real world images with expression, pose, gender, age and ethnicity variations. For AFLW we used the provided face rectangle annotations.

**Demerits:**

* We propose a novel light-weight model, consisting of only 113.864 free parameters, and we show that our method despite its minimum complexity can provide formidable results and is suitable for real-time detection with standard processing power as opposed to most neural network based detection techniques.
* We introduce a new approach of handling occlusions and we show that the key to face detection is the information provided by local facial parts.
* We present a new training methodology according to which the CNN is gradually supplied with training examples of scaling difﬁculty. We show that our method can drastically improve training speed and signiﬁcantly reduce the number of false positives

**Improved Face Recognition Rate Using HOG Features and SVM Classifier**

**Merits:**

* Face recognition methods mainly deal with images which are of large dimensions.
* This makes the task of recognition very difficult. Dimensionality reduction is a concept which is introduced for the purpose of reducing the image dimensions.
* This can be achieved by taking only the starting few principal components in such a way that the dimension of the transformed data is minimized.

**Demerits:**

* The first 8 images from each set are considered for training and the remaining two images from the data set are considered for testing purpose.
* The features of all the face images in the training group are extracted using HOG feature extraction.
* In this the whole image is divided in to cells. Each cell has a matrix of pixels. Each pixel casts a weight vote for an oriented based histogram channel. Histogram channels are evenly spread over 0 to 360 degrees.

**Multi-Scale Fully Convolutional Network for Face Detection in the Wild**

**Merits:**

* Handcrafted Feature Based Face Detection.
* The boosting cascade framework proposed by Viola and Jones (VJ) is a seminal work for face detection.
* Detectors based on DPM learn root ﬁlters, part ﬁlters, and their spatial relationships via a latent support vector machine (LSVM), making them more robust to occlusion.

**Demerits:**

* we will give a detailed description on the multi-scale FCN detection system, including the deep architecture, the multi-scale training and implementation details.
* namely accuracy in ensuring that the student who does it himself or other parties who do attendance and the teacher only looks at the student login activities.
* Compared to these two-stage detectors, MS-FCN only uses one single deep neural network and achieves top performance.

**Techniques and Challenges of Face Recognition: A Critical Review**

**Merits:**

* Face recognition is always an interesting area and one of the challenging tasks in computer vision and image retrieval.
* It is applicable in variety of domain such as in ATM, healthcare system, driving license system, railway reservation system, surveillance operation and passport authentication.
* In large database, face image recognition is always a challenging task.

**Demerits:**

* Using single-camera videos, they reconstruct a 3D model of both faces and exploit the corresponding 3D geometry to warp the source face to the target face.
* Face verification is a process of recognizing and matching faces. The use of biometrics for recognition systems has the aim of increasing human comfort and security in the scope of personal privacy and in a wider scope such as for an agency.