Detecting Fake Image: A Review for Stopping Image Manipulation

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Abstract. Data manipulation getting bigger threat day by day with the dynamic tech touch for the time being. Image is represented by underlying pixelated data consisting by its area elements. By the blessings and high availability of smart technology and device, images took important part of humans memorable life events. This is the evidence with most consideration for significance by human eye view. A true image can be a big game player both in social and practical situation. Moreover the technological manipulation of an image named fake image can make violation in major perspective consideration rather than any thinking flow or data to obtain the difference of right or wrong. Here the detailed information obtained from the conducted a literature review on the fake detection identification techniques is presented. The review paper contains information related to different fake image detection techniques instead of making detection true and false image. Several detection techniques had been studied like iris recognition, Support Vector Machine (SVM) and Purkinje image-based. Simultaneously we have considered biometric systems for security aspects as well as 2D to 3D image transformation problems. For web based applications demosaicing detection method and a colour image change splicing technology we have analyzed. Moreover we found underwater dam methods can be used for crack detection, where we focused on fake colorized image detection. Most importantly we have studied on fake smile identification to enrice image forgery technology stronger.

Keywords: Fake image detection · Fake smile · GLCM

1 Introduction

The strongest and honest source of demonstration or illustration is photographed. The evidence-based domains such as news reporting, forensics, army intelligence, research, crime detection, legal proceedings, insurance claim processing, medical imaging, publishing, etc. used to utilize photographs as authenticating document. With time, the technology used for photography has developed from ordinary photographs to digital ones in each and every domain. Even though digital imagery has developed to be pocket-friendly or even free, it has

A. Saha et al. (Eds.): ICCISIoT 2019, CCIS 1192, pp. 146–159, 2020.
https://doi.org/10.1007/978-981-15-3666-3_13

downgraded in its reliability aspect over the course of time. The ordinary photographs were more trustworthy than digital ones. The development of photo improvement programs such as Adobe Photoshop, Corel Paint Shop, GIMP, Pixelmator, Photoscape, and Photoplus has played a major role in digital photography's credibility demise. With the use of these software's, it is very easy to alter any photograph like iris or smile or both alternation [5,10] of an image can change the output significantly. In addition, if there is a shadow [1] alteration occurred the view of the considered image will be changed completely. Due to this, it has become very difficult to decide whether a photograph is original, or it is altered. This, in turn, has lost its trustworthiness as a piece of evidence in every important field. The 'digital image tamper detection' field is blooming as a result, to authenticate the digital photographs. It helps to filer the original images from the altered photographs.

With the great ease of computer graphics and digital imaging, the content of the image can be altered very easily. None can judge the image if it is real or a fake one. To make a forgery picture, two resources are usually used, these are copy-move an image and splicing. In this case, a part of the image is duplicated and then pasted on different other areas to coat up any unwanted part in the identical picture. The capabilities of multimedia devices and mobile photography have increased image fakeness. This activity spoils the name of the deserving persons. It also influences legal decisions. So, there is a strong need for developing a healthy framework to analyze the originality of the images. This paper brings an overview of the current research progress on fake image identification. This review paper provides information about the work carried out by the different authors. Here the work is classified based on the image classification technique. It shows the most effective and most used techniques.

2 Literature Review

2.1 Fake Iris Detection

Precise iris segmentation and localization are the most important objects during the implementation of the iris recognition method. The efficiency of the iris segmentation also matters a lot from an eye reflection that determines the rate of success for a featured extraction algorithm. With the specific method, we can easily calculate the accurate outer iris boundary through the tracing feature of the object all the time irrespective of the shape & size. Inner iris boundary gives us the result after comparing the two eye images of equal titles at various intensities so that it can efficiently detect the pupil size. Moreover, the variation in pupil size is implemented at a time of iris detection. Hence, this approach is proved more useful than any other based on the fake iris spoofing. This method has highly encouraging techniques for the iris recognition system. The vital algorithm is implemented through the Phoenix database of 384 images both eyes of 64 subjects. Furthermore, the profit rate in the particular iris localization from eye image which is more than 99% always. It also removes the possibilities of all losses of iris texture characteristics in the spatial domain that makes it distinct from other conventional methods. And processing time is also great compared to these techniques [24].

An analysis on [12] the usage of Support Vector Machine (SVM) for detecting fake iris in biometric authentication systems. Iris recognition technology can be certain drawbacks like usage of an artificial eye or printed contact lens. So, detection of the fake iris is important. This paper proposes the usage of Support Vector Machine (SVM) as it has high classification ability and is user-friendly. It is suggested to categorize lower half of Iris patter as Region of Interest (ROI) to avoid corruption of image. Properties like contrast, correlation, energy and homogeneity in a Grey Level Co-occurrence Matrix (GLCM) can be useful to extract textural features. Once the feature values are obtained, a vector is formed and then classified by Support Vector Machine (SVM). If the output is positive, it means that it is a live iris. The experiment is carried out using MATLAB. The total sample size is 2250 images, 1100 are used for testing and the rest for training. The main issue with the Grey Level Co-occurrence Matrix (GLCM) approach is the high amount of computing resources required. To solve this, during the scaling process, grey levels are set at a lower number. Even with this change, the rate of correct classification is 100% and the average execution time is 31.3 ms for feature extraction and 14.7 ms for classification [27]. Hence the scheme can have practical applications.

In order to detect fake iris, a new method, based on Purkinje image has been proposed. Although previous research has been done on this topic, it has serious drawbacks [14]. This study proposes to use collimated Infrared Light Emitted Diode (IR-LED) in order to calculate theoretical positions between the images and enhance the fake detection algorithm. Based on the focus value, we can discern if the image is focused enough. The proposed structure for the iris camera includes dual Infrared Light Emitted Diode (IR-LEDs), two collimated Infrared Light Emitted Diode (IR-LEDs) and a Universal Serial Bus (USB) camera with a Charged Coupled Device (CCD) sensor. Designing a shaping model of the Purkinje image using Gullstrand eye model makes it difficult to use a fake iris to bypass the system. Based on theoretical values, it is possible to calculate the exact location where the images are formed. For the experiment, 30 people tried to recognize 10 times each, resulting in a total of 300 images. In addition, 15 counterfeit samples were used [13].

Several programs have been launched by the government for national identification like Aadhar in India. It includes iris biometric that presents a unique identity to millions of people. With the passage of time and development of modern technologies, iris recognition has become vulnerable to advanced sensor spoof attacks [30]. In this paper, researchers have investigated another way to deal with consequently distinguish artificial eye/iris pictures displayed by the client to the genuine iris imaging sensor for trading off the trustworthiness of sent iris acknowledgment framework. Recent research has revealed the use of cosmetic texture lenses to deceive iris recognition devices. Experimental data has been achieved by performing tests on record obtained from the publicly altered iris image database. The development of an anti-spoofing technology is based on the global and localized area surrounding the iris, the iris created an application at the same time uses the highlights from the iris area and the whole eye picture so as to carry out a solid examination of genuine or fake iris images [14]. The component considered in this technology utilizes powerful descriptors for the force conveyance, surface irregularity, edge quality, and surface range to assess the validness of the iris pictures.

2.2 Fake Biometric Detection

The security of biometric systems is a very concerning topic these days [26]. By using various sophisticated techniques like face masking and gummy fingers spoofing attacks are being conducted on the biometric systems to gain illegal access to systems and data. It has been an area where a lot of research has been done since such fraudulent attacks have been on the rise [19]. A robust and efficient system is needed to meet the challenges that this threat poses. A new method to detect fraudulent biometric impression uses an assumption that the image quality and properties from a real sample will be different from a fake image sample collected during a hack attack on a biometric system and uses a very basic but robust level of complexity to ensure it is practical for use in real-time [25]. It uses livens detection via quality assessment as well as many other traits of biometrics. The system uses Support Vector Machine (SVM) Classifier to differentiate between a real and fake sample. This system can also in the future use the sample parameters to test hand geometry, finger or vein prints by using further detailed quality parameters for testing.

Biometric Detection of persons has become one of the main tools for the organizations to know the legitimacy of the photo. For the real authentication of the images, some organizations have also started the implementation of some authentic protection steps which is a valuable process in reconstructed samples. Novel software-based fake detection method will be useful during the multi-biometric systems which will work like obstacles for the frauds and fraudulent cases will be detected efficiently in less time. Hence, the introduction motive proves which will drastically work like a reliable ally for organizations enhancing their security all round the clock [4,9]. Besides, by adding the feature of enhancing the security of the biometric recognition framework, organizations also add the action assessment swiftly and most importantly they'll be user-friendly. Hence, after the inclusion of the specific method, we can also neglect the complexity by which method is drastically implemented in the real-time applications with the most commonly used 25 images with their quality features extracted from any single image which is needed during the authentication. This specific image need for these common images will also identify the legitimate or impostor samples at a time. The analysis of the common image quality through a particular method will also assist organizations in getting highly valuable information and thus it also discriminates itself from the fake characteristics of the obtained result [22].

2.3 Image Change Detection

Data about image change detection is very crucial in many areas like satellites. They use image matching algorithm to provide quick, convenient and cost effective data to detect change. Image change detection is very useful for urban & rural planning and monitoring environmental changes [18]. One of the biggest bottlenecks in this area of research is a 2D format of images that make it very difficult to separate man-made constructions like buildings, highways, and bridges from natural changes in the landscape. For that, this paper discusses a new system which obtains 3D images via stereo technology to resolve this problem. Kullback Leibler Divergence (KLD) is used to compare the similarity of two images, the results are combined with the Digital Surface Model (DSM) images using Dempster Shafer Fusion theory (DS Fusion). Radiometric information at pixel level does not suffice to the cause thus object-based descriptions of the images are used to get the accurate data. This new method uses the Digital Surface Model (DSM) technology and algorithms and the data generated from the stereo data derived from the space can be a very useful and reliable source.

2.4 Demosaicing Detection

The development of false information among communities is spreading through Image manipulation techniques. This research [2] aims to create web based applications to be developed is the main target of this research by putting together an algorithm and web technology in order to detect false images. The outcome of this research is, the accuracy of 72% in detecting forged images is managed to be produced by the web application. Few could be the recommendations can be as follows: Application of fake image detection techniques by executing enforceable programs run in server-side comprising of false image detection algorithms with scripting languages.

2.5 Image Splicing Detection

A color image joining splicing technology dependent on dim level co occurrence frame-work (GLCM) of thresholded edge picture of picture chroma. There are two methodologies of image fabrication discovery: active and passive recognition. The active methodology requires pre-handling (for example watermark inserting) when producing an image or before disseminate picture. The passive methodology does not require this task, be that as it may, and could make an investigation on different images dependent on regulated learning. This paper has highlighted the passive method joining identification strategy dependent on the examination of picture chroma part. The test results have demonstrated that the proposed highlights of Cb(or Cr) part are more compelling than that of the Y segment. After the element separating, highlight choice (boosting highlight choice) has been done so as to lessen highlight measurements [20].

2.6 Crack Detection

The detection and classification approach in the novel underwater category proposed. For lack of the underwater dam image detection, an algorithm is introduced [28]. With the assistance of the intensity values of the two-dimensional image to create a three-dimensional spatial surface, the algorithm can be implemented efficiently. This is also perceived as a concave-convex ground with various pits and ditches. The pits can be used for the noise pixels and the ditches are for the crack pixels [7]. Cracks may seem arduous in describing the two-dimensional image, which is observed as ditches, particularly in the 3D spatial surface environment. For getting characteristics of ditches space shapes, the space methods prove great results to us with the space detected method drastically implemented to fetch the ditches data that is mapped with the two-dimensional surfaces [28]. Due to the collection of noise and forged cracks, BP neutral system is taken that can recognize the specific crack object, where the crack data can be obtained greatly.

2.7 Fake Colorized Image Detection

Detection of manipulation of images can be done by colorization. i.e., the coloring of grayscale images to confuse object recognition algorithms. Colorized images have different hue and saturation channels and dark and bright channels. The research proposed two ways of detecting these images: Histogram based Fake Colorized Image Detection (FCID-HIST) and Feature Encoding based Fake Colorized Image Detection (FCID-FE). This methods have the ability to detect manipulations directly. Some of these schemes include a comparison of statistical differences in hue, saturation, dark and bright channels, and modeling the created 4D samples and encoding them. There are three basic types of forgery detection: Copy-move, which depends on identifying copied areas, splicing detection which finds altered regions on the final product that are sourced from different images and finally, image retouching detection. There are three types of colorization techniques: (1) Scribble based: colors are assigned to pixels on grayscale, (2) Example-based: Reference color images are provided, similar to grayscale, and (3) Fully automatic: No supervision is required as a neural network is trained and images are colorized using end to end network.

Colorization can be detected by examining statistics. Colorized images are less saturated and favor certain colors. Using Hue-Saturation-Value (HSV), normalized histograms can be calculated. These values differ significantly between colorized and normal images, which allows us to tell them apart. Histogram based Fake Colorized Image Detection (FCID-HIST) method can also be used to detect colorized images [11]. This is done by using the four detection features to find forgeries. The images that have the most divergence from normal values are the fake colorized images. After using the divergence to calculate a detection feature, Supporting Vector Machine (SVM) is used by FCID-HIST to train and detect fake images. Feature Encoding based Fake Colorized Image Detection (FCID-FE) method is more effective to fully utilize statistical differences. It jointly models data distribution and exploits divergences inside the distribution.

2.8 Region Duplication Detection

Copy move is one type of forgery to create a fake image. It is a complex issue and very difficult to detect. In this paper, the researcher proposed a method to identify copy-move forgery [17]. Despite leaving no trail to detect forgery, tampering an image to do region duplication damages the image at the pixel level. Their method uses the robust color moments derived from the image and makes it possible to detect forgery. The method uses the HSV Histogram based method and the features retrieved from the image detects duplicated regions in the image, since any region duplication or copy-move forgery requires duplicated regions to be used from the same image and thus the field of the copied image properties are going to be similar to one part or another of the same image due to duplication. This is a very robust and efficient method to catch duplicate elements. The proposed system is very efficient in working over two separate databases and has shown great results in the detection of the copied section. In a large database of non-tampered and forged images, this system will successfully detect images which have been subject to region duplication and thus will be very useful in detecting multiple attacks of copy-move forgery.

2.9 Face Spoofing Detection

Biometric systems in place at the moment are not capable enough to withstand spoofing attacks which gain illegal access to systems & data by falsifying the identity. This developed system uses image quality assessment & texture analysis of an image to determine whether the face on the other end is a person or just a face print [16]. The system is based on image quality assessment and differences between the two samples' artifacts. The difference between a no rigid 3D human face and a rigid planar photograph of a face is exploited by this technique and the difference between image pigments, light reflections & shadows are used to identify fake images [29]. By using Local Binary Patterns (LBP) technique, the method identifies printing quality defects to make the distinction & it's a robust, quick & can be done without end-user approval. This method can also be used for face recognition & has given successful results on testing is done on a publicly available database which consisted of several real and many fake images and the testing results were very accurate. This system can be successfully implemented in other spoofing attacks that use masks or 3D models on the basis that human skin has a unique texture which is almost impossible to replicate in that level of detail from a mask [21].

2.10 Object Detection

It is critical to improving the uprightness and exactness of sonar picture target identification, which is huge for submerged location. An assortment of sonar picture denoising calculations and division calculations are considered, and a denoising calculation dependent on quick bend change is proposed. Affected by submerged condition commotion, the ship's very own clamor and resonation signal, Doppler move and engendering misfortune during the time spent acoustic transmission brings the sonar picture issues as low complexity, solid dot commotion, fluffy objective shape, etc. Low Resolution, poor picture quality, less valuable data, and different issues, genuinely influencing the submerged discovery and tasks. The picture division calculation dependent on k-implies bunching is examined, and the ideal grouping number screening and sonar picture subsurface division are figured it out. The sonar picture quick division calculation dependent on the Independent Chip Model (ICM) calculation and the item form location of sonar picture dependent on level set strategy is acknowledged in MATLAB [27]. The outcomes demonstrate that the proposed calculation can improve the commotion decrease impact of the sonar picture under resonation obstruction and get a superior picture recognition impact. Joined with the underlying division aftereffects of k-implies grouping, the last division is accomplished by refreshing the markings through the iterative restrictive model (ICM). The guideline and imperfections of the C-V model division steady four-stage in the level set are talked about in detail. Considering the improved calculation proposed by Professor Li Chumming, we can separate the framework of the objective in the picture precisely, which have tremendous flexibility.

2.11 Fake Smiles Detection

Fake smiles can indicate negative emotions, discomfort, and secrecy. The purpose of this research is to detect fake smiles [11]. On a fake smile, certain muscles in the eyelids do not contract [10]. Using segmentation, wrinkle density is calculated and based on these variables, smiles can be classified. Accuracy is 86%. Although it is difficult to discern between real and fake smiles, Duchenne proposed to observe contractions of muscles in the eye area as these indicate real smiles. So, real smiles are also called Duchenne smiles. Previous research is focused on determining whether the person in the picture is smiling based on factors like facial symmetry and distance between the corners of the mouth. This research focuses on detecting fake smiles based on detection of wrinkles (a contraction of muscles near the mouth) and squinted eyes (contraction of muscles near the eyes) Mouth segmentation is done using color segmentation. To avoid a Region of Interest (ROI) emerging outside of the mouth, a block is used. Within this block, corners of the mouth can be detected and based on these, mouth segmentation can occur. The sample size of the experiment is 100 images, out of which 50 contain real smiles. Using MATLAB, eye elongation and wrinkle density are calculated [23]. Data is verified 4 times, with 25 images as training data, and the rest as test data. In the end, the test had an accuracy rate of 86% and an error rate of 14%. Errors occurred due to inaccurate segmentation and narrow shape of the subject's eyes. Based on this study, cheek segmentation can be improved in the future and improve fake smile classification. Compared to real smile, a fake smile does not include elongation of eyes. The difference is found by the calculated value of elongation. The accuracy of this classification is measured by the exactness of segmentation on cheeks and eyes.

2.12 Other Methods

In image processing Edge detection is an essential process and as the detection results, it has a direct effect on the image analysis [3]. With the detection of the first derivative, the traditional edge detection algorithms are done. The first-order differential has few benefits such as speed, simple computation, and how easy it is to implement. With the help of different algorithms and techniques, the schemes for counterfeit detection are being evolved. This paper discusses the image sensing and image enhancement with the help of Canny Edge Technology. Though the counterfeit detection which is done on a few chosen Philippine banknotes was received with the incorporation of a dissimilar security trait called an Optically Variable Device (OVD). A MATLAB GUI program is being created which does the processing of the image with Canny Edge Technology. A robust method is taken into consideration for the Canny edge algorithm. Thus in image sensing and Image enhancement, the technology which is used is Canny Edge Technology. At the same time, the MATLAB program was also being designed. Though the study showed great improvements in counterfeit detection and also there was a successful implementation of four-way detection. Optically Variable Device which is a security feature being used for the counterfeit detection which is done on opted Philippine banknotes. Thus with these updated technologies, things have become easier for people to perform.

Computer digital imaging and graphics makes much easier to change the content of images without any visually traces to identify such manipulations [5]. Numerous false images are developed that are created artificially. Therefore, it becomes difficult to judge, as if they are visually real or unreal. Singular Value Decomposition (SVD) is used to detect fake images to make a binary decision as a classifier to find whether a picture is false or real. This method improvised the current process of detecting false image using SVDs. These speculations prove the working of this algorithm, even with one dot of real. Image detect any minute changes in an image. Authors used the SVD technique in this paper for a false image detection Scheme. Before the publication of the images to publicare, certain helpful information inserted into them. The work in recurring to the hidden information introduced the mathematical SVD operation in the false image. Improvisation of earlier work in this paper particularly in is achieved. Two secret vectors are calculated in a new way. Scalar factor expanding from 0.01 to 0.0001 is the important improvisation in this work. The threshold in was stable for all images which are also another improvement, while in this work, each image threshold works differently, for each image Instead of constant threshold (0.01), an auto threshold is chosen. The detection efficiency and removing false detection get enhanced due to these improvisations. When checking 1000 image the fake positive rate was 0.8% in while the rate decreases to 0.0% in this paper. It must be noted that all techniques of detecting false image need the real image and the false image to make a comparison between them but nowadays the original image no longer is needed. Comparatively previous work and this work is analyzed where the sample test taken as color images. They compared and saw that their SVD scheme is sensitive for any minute area modified in any image and it is great and effective in detecting the false image.

Efficiency & automation in the process of detecting wheel treat defects is the need of the hour and traditional methods like matching key points are inadequate to detect the wheel tread defects and that is why a new method was proposed that uses wheel tread extraction & registration [15]. This system, first of all, detects the defects of the tread. By using Helmholtz Principle, lines & ellipses in images are detected, registrations are then performed between the template & under detecting tread image. Finally, the differences in pre and post-testing images identify tread defect candidates which are comparing two images in question for the tread defects. The testing shows that results of up to 96% could be achieved between under detected treads & the template. The defect can be identified accurately according to the results of this method. This solves the problem of speed, automation & accuracy of tread defect location identification. The next stage of testing & development plans to recognize the type of defects as well. By using SVM classifiers, detailed information of the defect like the depth and the area can be retrieved along with the type of the defect. Labeled images may also be used to train a CNN model that predicts the type of defects.

Medical science drastically depends upon the digital images these days which has also increased the query solving efficiency during the authentication process of the images [8]. Authenticity verification is one of the most vital processes for scientific research of the digital image. With the help of authentication, we can also obtain the purpose like forensic investigations and governments documents verification greatly. Robust image editing software like Microsoft paint & Photoshop helps us in tampering through the digital image kept for spiteful usage anytime. Furthermore, fake insurance claim cases in the medical sector have also been increasing in the past few years so the medial sector has also started implementing medical imaging. Through the past process, Researchers applied the algorithm that could address the problem of detecting and localize imaging. Besides, the algorithm drastically depends upon the firmly based representation of images implementing the discrete wavelet transform method that will also assist in detection and localization in tempering. Our study shows the algorithm is thoroughly based on some robust procedures which will remove the threat of harmful manipulation and thus these are also sensitive for the tempering process occurring. The proposed algorithm is great in many aspects as well, where the less computational resource consumption has also been discussed consequently.

As of late, the railroad business in China demonstrates a quick improvement. Railway technology in china is not that advanced like European countries and Japan. This paper centers around the detection of track hurdle based on image processing, canny edge detection algorithm. They are focused on railroad impediment location strategies dependent on the qualities of the tracks; additionally advanced the identification window idea to lessen the obstruction of the mind-boggling foundation to disentangle the rail deterrent discovery. In conclusion, they affirm through tests that the multi-step recognition program undergoes a compelling impact in obstacle automatic detection. Through an examination of the three techniques referenced above, we arrive at the resolution that "Strategy dependent on the trustworthiness of the Rails and Sleepers" is most precise, notwithstanding, somewhat, the other two strategies rely upon the light condition and deterrent hues. For rapid trains, the braking separation is a lot bigger than the separation that the camera can identify; essentially utilizing the picture acknowledgment may go out on a limb. In any case, as an optional discovery technique, picture recognition can consequently perceive harms of train tracks rather than the human eye, simultaneously, it additionally provides the fundamental pieces of information to encourage investigation of the tracks and train exemptions (Fig. 1).

Authors	Method	Accuracy	Considering elements	Used Tools
He, S. An and P. Shi (2007)	Support Vector Machine (SVM) for detecting fake iris in biometric authentication systems	100%	Region of Interest (ROI), Grey Level Co-occurrence Matrix (GLCM) & 2250 sample images	MATLAB
Sanchez et al (2010)	Iris segmentation and localization	99%	Phoenix database of 384 images both eyes of 64 subjects	Feature extraction algorithm
Patil and D. Pete (2015)	Kullback Leibler Divergence (KLD) combined with Digital Surface Model (DSM),	Significantly accurate	2D images to 3D	Dempster Shafer Fusion theory (DS Fusion)
Bachtiar, D. Gusti, I. Wijaya and M. Hidajat (2018)	Algorithm and web technology combination	72%	Web based apps	Executing enforceable programs run in server-side comprising
Gunadi et al (2015) & Y. Guo et al 2018	Calculating wrinkles and squinted eyes block area	86%	Segmentation on humans' cheeks and eyes	MATLAB

Fig. 1. Figure shows some comparison and accuracy of methods year wise.

The edge identification examinations of two genuine pictures are led by methods for two calculations. The similar trial results demonstrate the new calculation of programmed edge is powerful [30]. The outcomes are additionally superior to the old style Otsu techniques. The improved Sobel administrator and hereditary calculations are used to upgrade division edge of inclination picture and proposed another programmed ideal limit calculation. The recent calculation defeated numerous deficiencies of traditional Sobel administrators, for example, over-segmentation and affect ability. Experiments demonstrate that the estimation speed and hostile to commotion capacity of the new calculations get more grounded. Be that as it may, we may likewise locate the identified edges are not fine enough, and a superior refining administrator will be created later on.

3 Conclusions

Research on fake image identification is one of the most preferred topics among researchers. A number of researchers have come forward to carry on the research on this topic. This kind of research helps to human mankind to resolve the problems related to the image forgery. The review of different classification methods is identified. Mainly the researcher's used some techniques for detecting fake image identification. And they are Histogram of Oriented Gradients (HOG) [1], Fake Iris Detection, Fake Biometric Detection, Image Change Detection, Demosaicing Detection, Crack Detection, Fake Smile Detection, Fake Colorized Image Detection, Region duplication detection, Face Spoofing Detection and etc. [6]. The detailed comparison of the different methods and their relative pros and cons are given in this paper. The MATLAB 9.0 algorithm for iris detection was developed. It is tested with 1 GB ram on the 2.4 GHz CPU. And used the CASIA Iris database was chosen for tests, which is accessible in the public domain. The database comprises of 30 pictures (320 * 280) photographic and each picture consists of 3 distinct pictures placed. For segmentation based methods Daughman's algorithm can give better results. SVM, PCA, and ICA can give better feature extraction facilities and can give much better fake image identification. In IRIS based fake image identification the quality evaluation can be done by Laplacian of Gaussian (LoG). IRIS recognition is the best method in fake image identification. Fake smile identification methods can be combined with the above fake image identification methods to combine emotional effects with image identification.

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