IRIS RECOGNITION BASED ON MACHINE LEARNING TECHNIQUES

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Abstract

One of the main results of the validation system is based on the fingerprint based iris recognition system and respective technology. The entire biometric process is very much authentic and unique than the other types of recognition system and validation process. This has provided innovative ideas in the daily lives of human beings. The multimodal biometric process has generally applied various types of applications for properly dealing with the appropriate and most significant limitations of the "unimodal biometric system". The entire process has been generally included with the proper sensitivity of noise, the population coverage areas, variability cases of the inter class and intra class issues, vulnerability cases of possible hacking and the non universality criteria. The entire research paper has been mainly focused on the deep learning oriented machine learning system. The fingerprint based iris recognition system to do the proper validation of human beings has been mainly done by convolutional neural network (CNN) technique. In the existing data validation process, the iris recognition system has been mainly done with respect to the "high security protection system with actual fingerprints". The entire paper has been briefly elaborated on the best uniqueness, reliability process and the proper "validity of the iris biometric validation system" for the actual purpose of the person identification.

Keywords: CNN, Biometric, Iris, dataset.

INTRODUCTION

The biometric process has been mainly used to recognize individual types of physical aspects and features. For this purpose, a tremendous amount of acknowledgement technologies have been generally provided with the actual fingerprint, iris procedures and voice acknowledgement. The biometric mainly deals with the proper technical and technological fields for the body controls and body dimensions. The authentication system is based on the appropriate biometric security system that has increased the actual importance within all countries. The used system has been shown the proper valid and best impressive performance based on all these procedures and aspects. For this purpose, the fingerprint is the only procedure for providing the proper security techniques to provide the true uniqueness and the strong privacy properties of the entire system. The exceptional fingerprint assurance or the proper kind of imprint approval has been

mainly insinuating the automated methods and procedures to ensure similarity between the two people fingerprints. The entire chapter has been generally provided with the actual purpose of the fundamental research that is overall dependent on the research objectives and respective research questions. In this chapter, the research framework of the entire study has also been provided. The fundamental research has described all the factors that are responsible for this recognition process.

LITERATURE SURVEY

In this particular recognition system, the outer and the inner boundaries of the iris area have been mainly detected by the different types of integro differential operators. The real success of the biometric system and the biometric process is totally based on the proper classification and proposed recognition system. The entire process mainly depends on the proper robustness and efficiency of the "feature extraction and classification stages". In this case, most choices of the fingerprint game-planning images have been proposed for the various types of bunch fingerprints in four to five classes between the four types. Among all these four aspects, the primary vital priorities and the initial step are the AFIS. The particular types of the biometric process use the unique certified cations for gathering informative data from the various estimations. This kind of data is very much necessary and essential for the various cases of individual priorities. It still remains important and essential for this recognition system. The Iris

recognition of the entire development of enthusiasm has been found within the sound stage of biometrics for human ID. For the proper discussion of the entire recognition system, there are used the "Bayesian graphical models" match the respective images of such types of tests. Among all the classifiers, "convolution neural networks" have been mainly considered the most robust and straightforward aspects to overcome all the obstacles within this system. This entire research study has been proposed as the "integrated approach to the proper iris recognition validation system" for the retention process of a human fingerprint.

METHODOLOGY

Biometrics systems have been one of the safest ways to secure and verify any system. In recent times, multimodal biometric techniques are widely implemented in several real-world applications. Due to the lack of validation processes in the unimodal systems, the multimodal biometric system was introduced with the help of deep learning algorithms. The "Convolution Neural Network (CNN)" is nothing but an algorithm that uses deep learning architecture. Validation through biometric systems is evolving day by day and has become a much promising technology that can be used for the identification and authentication of any person. Peer technologies are recently used in the system for solving the validation difficulties through the biometric system. In this part of the research, different analyzing methods will be discussed. For every research work, there is a particular approach

which is obtained to reach the final outcomes that will be accomplished in this chapter. Being one of the latest and safest technologies in the history of validation, there are several limitations that are faced while processing the entire task. Some of the systems and software are required to improve so that better services are provided to the clients. So the limitations of the research have also been attached in part. Here the analysis will be done on the basis of the software and technologies that have been used for developing the entire software work. The fingerprint and iris recognition system requires an exemplary user interface as the validation and verification process is given significant priority. Through the wireless communication model, the software work will be done. Deep learning algorithms are another vital part that would be used for this purpose. Through the implementation of the "convolution neural network (CNN)" architecture, reshaping the biometric system would be done.

Data collection:

The data collection method is one of the most critical sections of any research work. Since most of the research follows primary or secondary analysis, data collection plays a significant role. Based on the collected data, the analysis is done. Since this particular research work is a kind of software work, the data collected that will be collected from the software would be used in the entire analysis process . Since most of the work is based on the proper validation and decision making criteria, gathering

information related to these scenarios were quite essential. In addition to this, the attached factors for the setup of the validation system, such as processing of the image, extraction, "convolution neural network (CNN)" models, would be required for collecting and storing data. Since the whole task is related to the software, it is purely dependent on the data and software itself. This would benchmark the application.
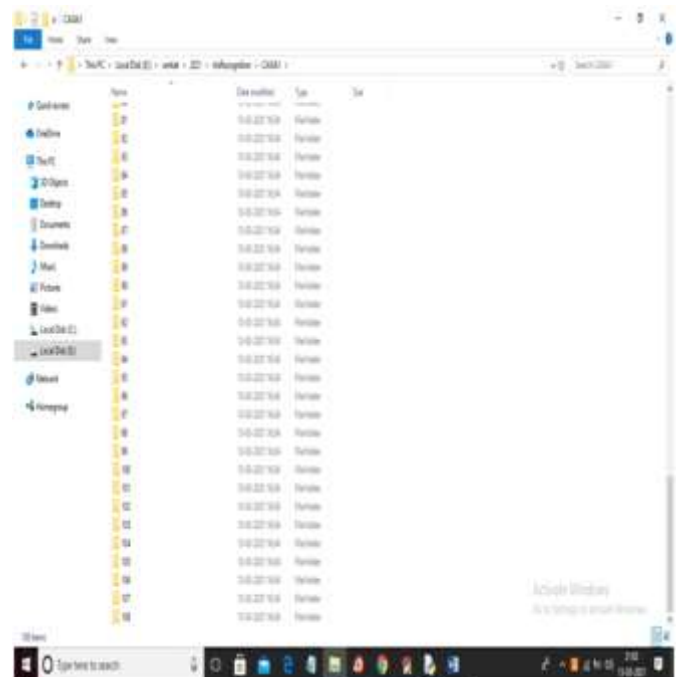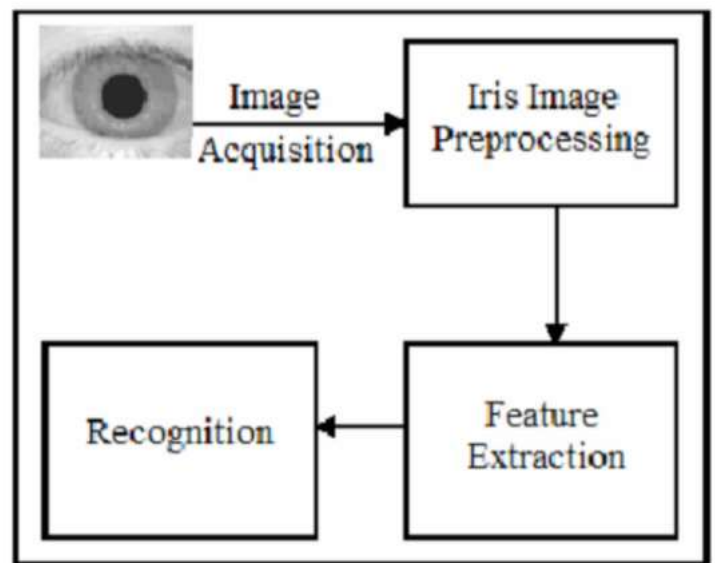

Fig.1. Iris dataset upload.

Fig.2. Applied CNN algorithm.

Fig.3. Accuracy graph.

Fig.4. Recongition process.

Fig.5. Accuracy recognition

CONCLUSION

This is the final chapter in the assignment that discusses the entire research work and also analyses the software work that has been conducted for obtaining the expected outcomes. This chapter mainly focuses on the expected outcomes, findings and analysis, which will be compared with the actual outcomes. This chapter compares both the actual and expected outcomes. This chapter also discusses the limitations that were faced while conducting the research, as well as. It also provides how this research work can be extended in future. In order to determine the effects of the research and the software study, it is essential to know the fundamental objectives and aims of the study. For conducting the software work, more emphasis has been given on how the implications of different kinds of software and technology will be carried out so that the actual results are achieved. In this particular chapter, the connections between the prime objectives and the results have been built. Future
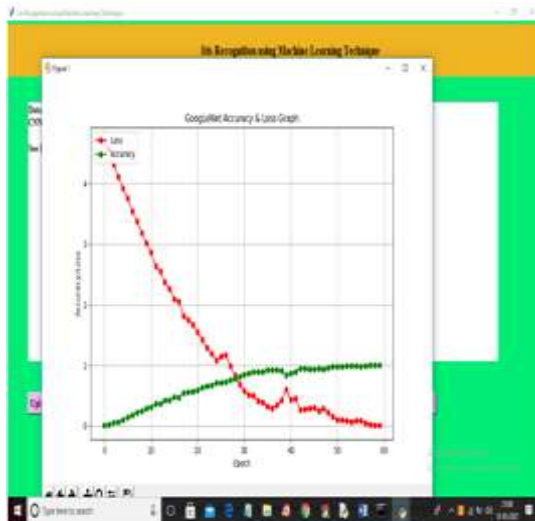
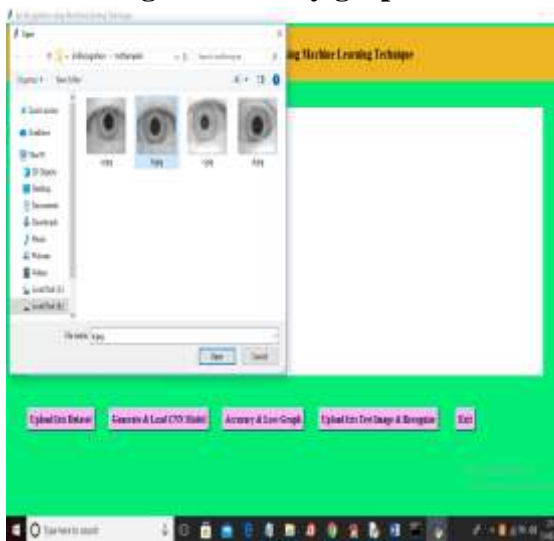recommendations on the software work will be made so that this research work can be expanded further.

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