

Criminal Detection Using Face Recognition System

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ABSTRACT

The face is crucial for human identity. It is the feature which best distinguishes a person. Face recognition is an interesting and challenging problem and impacts important applications in many areas such as identification for law enforcement, authentication for banking and security system access and personal identification among others. Face recognition is an easy task for humans but it's an entirely different and difficult task for a computer. Face recognition based on the geometric features of a face is probably the most instinctive approach for human identification. The whole process can be divided into three major steps where the first step is to find a good database of faces with multiple images for each individual. The next step is to detect faces in the database images and use them to train the face recognizer and the final step is to test the face recognizer, if it recognizes the faces it was trained with. There is an abnormal increase in the crime rate and also the number of criminals. This leads towards a great concern about the security issues. Crime prevention and criminal identification are the primary issues that police personnel face. With the advent of security technology, cameras especially CCTV have been installed in many public and private areas to provide surveillance activities. The CCTV footage can be used to identify suspects on the scene. The model will be able to recognize criminals, whose pictures the model is initially trained with, using Convolution Neural Networks, Artificial Neural Networks and OpenCV and further send a message to the cops about the location and other details of the criminal.

As an adsorbent for water purification technologies in the form of nanomaterials, polymers and green materials

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Abstract

Numerous contaminants have contributed to water pollution, making it one of the most pressing issues facing people all over the world. When it comes to wastewater treatment, there are a variety of methods and materials to choose from. For researchers to develop and assess novel adsorbent materials for wastewater treatment, methods and processes are needed. An important step in the development of systematic protocols and processes for the synthesis of nanomaterials, polymers and green materials as adsorbents utilised in water purification has been taken with the present review. Protocols and processes for the production of nanomaterials, waste-derived material materials and polymer adsorbents are discussed in this paper. A set of water treatment evaluation techniques is also supplied. Researchers and industry employees may use the disclosed processes and procedures as a reference for creating and testing novel water treatment products.

A New Approach to Ranking Using Generalized Trapezoidal Fuzzy Numbers

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ABSTRACT

Fuzzy numbers play an essential part in decision making, optimization, forecasting, and other areas of analysis. Prior to taking action, fuzzy numbers must be rated by an executive. The ranking approach presented by Chen and Chen (Expert Systems with Applications 36 (2009) 6833-6842) is shown to be wrong in this work using various counter instances. New methods for ranking generalised trapezoidal fuzzy numbers are the focus of this study. Because the suggested technique provides the right ordering of generalised and normal trapezoidal fuzzy numbers, it is a significant benefit. According to Wang and Kerre's (Fuzzy Sets and Systems 118 (2001) 375-385), the suggested ranking function meets all the acceptable features of fuzzy quantities.

The Importance of Teaching Soft Skills to Engineering Students

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Abstract:

Because of the fierce rivalry for employment in global corporations and in a wide range of technical fields, soft skills are now required. Aspiring professionals in engineering and management need more than just academic and technical abilities to succeed in the workplace. They also need to be able to communicate effectively with colleagues and clients. The focus of this presentation is on the need

of providing engineering students with training in soft skills. Focused focus is given to a certain subject in most engineering institutes. Despite the fact that students must be given technical training, multinational corporations all over the world are asking for more. To master soft skills, today's engineering students must develop a broader set of hard abilities than those in their respective fields typically demand.

The Osteogenic Potential of Titanium Dioxide Nanoparticles of Different Sizes and Shapes

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COLOUR EDGE DETECTION USING INTENSITY AND CHROMATIC DIFFERENCES IN COMBINATION

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Abstract: *The term "edge detection" refers to a collection of mathematical techniques for categorising spots in an image when the picture intensity changes abruptly or contains discontinuities. The work attempts to discover a method for identifying colour edges using the colour and intensity information of two new pictures, H-image and T-image, created through colour space transformation, which result in two derivatives of H-image and T-image that are then merged to achieve the final edge.*

Multiple Instance Learning for Automatic Content-Based Classification of Speech Audio

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Abstract: Speech analytics researchers are working to improve their ability to decipher audio material. This research presents a new method for classifying news audio clips based on their content, called the Multiple Instance Learning (MIL) approach. Audio classification and segmentation benefit from content-based analysis. As a starting point, a classifier that can predict the category of an audio sample has been proposed. Perceptual Linear Prediction (PLP) coefficients and Mel-Frequency Cepstral Coefficients (MFCC) are two kinds of features used for audio content identification (MFCC). For classification, two MIL approaches, mi-Graph and mi-SVM, are used. Different performance matrices are used to assess the outcomes gained via the use of various approaches. The results of the experiments clearly show that the MIL has great audio categorization capacity.

Use of a Mean Convolution Mass Filter to Reduce Mango Fruit Noisiness (MCMF)

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Abstract: Communication is increasingly reliant on the transfer of visual information through digital pictures. The noise is the consequence of picture capture flaws that don't accurately represent the intensity of the real scene. Using this picture as a decision-making tool is a possibility. Use the appropriate algorithm to remove the noise to obtain a high-quality picture. Salt and pepper, Gaussian, and Poisson noise all degrade images, thus it is important to know what kind of noise is present in the picture before attempting to remove it. The "Mean Convolution Mass Filter (MCMF)" method was proposed in the publication. Digital images may be de-noised more effectively with this method compared to other current techniques

UTILIZATION OF IOT AND IMAGE PROCESSING TO REGISTRY CREATE A SMART VEHICLE

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Abstract: Everything is being automated in the contemporary technological age because of many technologies. An automated Smart Vehicle Registry with zero human intervention is constantly needed. With the help of a single automated system, RFID (Radio Frequency Identification) and Image Processing, a vehicle and its driver may be registered as they enter a designated zone. Various efforts in the fields of RFID and image processing are reviewed in this article. The proposed system consists of an RFID system that can be used to scan the person driving the vehicle, and Image processing system that includes a camera and an open-source library to scan and record the vehicle registration plate number, and a front end that manages the input and output flow of the system. The system described in this work is designed such that analysis of the output data may be conducted quickly and simply. Additionally, this article analyses the numerous results and future tasks that may be done to enhance the system in detail.

Smart Farming Based on the Internet of Things (IoT): Towards Precision Farming in Agriculture

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Abstract: The Internet of Things (IoT) technology has transformed every aspect of human existence by connecting everything. IoT that is well-developed and brilliant indicates a network of objects or people that form a self-building network. Food produced through smart farming is great and well supported by the people. High-quality farming is one of the most essential arena systems for producing food that is both wonderful and sustainable for the population. One of the most well-known uses of IoT in agriculture is high-quality farming, and several organisations across the globe are taking benefit of this method. Harvest management devices are another sort of IoT technology in farming and an important component of high-quality farming. And weather locations, they should be positioned in the field to gather data tailored just for crop farming, from temperature and rainfall to leaf water and overall crop health. Smart farming makes use of agricultural-based drones. Drones, also known as UAVs (unmanned aerial vehicles), are better equipped than aircraft and satellites to gather farming-related data. With the growing acceptance of the Internet of Things (IoT), linked devices have infiltrated every aspect of our lives, including health, home automation, self-propelled and planned transportation of people and goods, smart cities, and industrial IoT.

Multiobjective Transportation Problem Using Fuzzy Decision Variable Through Multi-Choice Programming

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ABSTRACT

Using fuzzy decision variables, this work examines the examination of the Multi-Objective Transportation Problem (MOTP). When solving a Transportation Problem, the decision variable is usually considered as a real variable. There are a lot of multi-choice fuzzy numbers in this work, but the decision variable in each node is chosen from a collection of those values. Multiobjective Fuzzy Transportation Problems are created when numerous goals are included in a transportation issue with a fuzzy decision variable (MOFTP). We provide a novel mathematical model of MOFTP that incorporates fuzzy goals for each of the objective functions. After that, the multi-choice goal programming methodology is used to define the model's solution method. For further proof of this article's value, a numerical example is provided.

EXPERIMENTAL STRATEGIES OF APPLYING STRONG AUTHENTICATION USING BIOMETRIC FINGERPRINT MATCHING PROCEDURES USING MSFPBT

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Abstract: - Through strengthening the authentication concepts utilizing the Biometric-Fingerprint Matching System, the key purpose of this strategy is to improve the protection features of identity management and security realms. Many Fingerprint matching systems are available in previous approaches to provide the answer for authentication principles, but all are at any degree of possibility, nobody can guarantee that the applied system is entirely qualified for authentication requirements. This sort of variance is induced by many factors, such as fingerprint distortions, adjustments of the vein form, thinner ridges, and so on. The proven realistic methods are capable of delivering solutions focused on each of the above-mentioned issues to produce the best outcomes, but a new technique is needed to solve the all-mentioned problems and ensure that our proposed approach is entirely qualified to execute the authentication operations based on Biometric-Fingerprint more effectively compared to other frameworks. The suggested methodology is focused on the study of three specific level features present in all Finger-Print cores, such as world, neighborhood and local features, in which the proposed algorithm will execute an effective matching scheme and the current approach is referred to as the Multilevel Structural Fingerprint Bank Technique (MSFPBT). The MSFPBT analyses the first two levels of characteristics focused on the location and ridge inclination of an area with respect to the center and its neighboring areas, respectively, where the local characteristics of curvature and minutiae of its ridges of the region are represented as finished. At the point of measurement, the next stage of local characteristics is dynamically evaluated and generates the outcome dependent on the cumulative outcome of the three characteristics analyzed. The proposed MSFPBT algorithm also recognizes distorted/affected fingerprints for processing, which identifies and corrects skin distortion based on local and global feature cores based on an input test image. The experimental findings indicate that the current Biometric method is ideal for more accurately recognizing fingerprints and reducing the false schema.

COMPARITIVE ANALYSIS OF LUNG DISEASE DETECTION USING DEEP LEARNING MODELS

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Abstract:

Now a days for identifying or predict any diseases on human beings, we should have proper diagnosis for predicting the disease which is present in that human body. In general for prediction of diseases we try to use either X-Ray, CT or MRI scan techniques for taking decision on that appropriate disease. In general medical person need complete knowledge on that appropriate domain to find out the abnormality which is present in human beings. As we all know that India tops the world for having more deaths due to lung diseases. After the second highest cause of deaths in India due to heart disease, this lung disease is one which is increasing its rank more and more. In order to reduce that problem early diagnosis and treatment of lung diseases is critical to prevent complications including death. Normally for finding the abnormality present in lung, chest X-ray is playing very important role to detect the complete information about the lungs. In this current article we try to present an effective way for expert diagnosis of lung diseases using deep learning models. It focuses on creating a system for assistance of Radiologists in detection of lung diseases. This will especially benefit rural areas where radiologists are n't easily available. We use two models like Vgg16 and Vgg19 for predicting the lung disease from chest X ray images and then tell which model gives high accuracy and performance. We conclude by discussing research obstacles, emerging trends, and possible future directions for improving some more advancement.