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Research Article

Find Your Missing Child Using Face Authentication

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Abstract: In India, There Are Numerous Children Missing Each Year. A Significant Proportion Of Youngsters Remain Untracked Among The Missing Children. This Article Provides A Newness Of The Technique Of Deep Learning To Detect The Reported Missing Kid From The Photographs Of Many Accessible Youngsters Using Facial Recognition. The Public May Submit Worrisome Kid Photos Onto A Shared Site With Monuments And Comments. The Picture Is Immediately Matched To The Photographs Of The Missing Kid In The Repository. The Supplied Kid Picture Is Classified And The Best Match Photo Is Chosen From The Missing Children's Database. For This Purpose, A Deep Learning Model Is Built In Order To Properly Identify The Missing Kid From The Missing Picture Database Supplied Using Publicly Submitted Face Images. For Face Identification, The Convolution Neural Network (CNN) Is A Very Efficient Deep Learning Method For Image-Based Applications. Face Descriptors Are Retrieved Utilizing The Deep Architecture Of A Previously Trained CNN VGG-Face Model. Our Algorithm Utilizes A Convolution Network Just As A High Level Feature Extractor In Comparison With Conventional Deep Learning Applications. The Kid Identification Is Done By The Trained KNN Classifier. Choosing The Best-Performing CNN Model To Recognize The Face, VGG-Face, And Appropriate Training Leads In A Profound Learning Model That Is Invariant In The Child's Noise, Lighting, Contrast, Occlusion, Picture Poses And Age, And Outputs Previous Techniques For The Identification Of Missing Children.

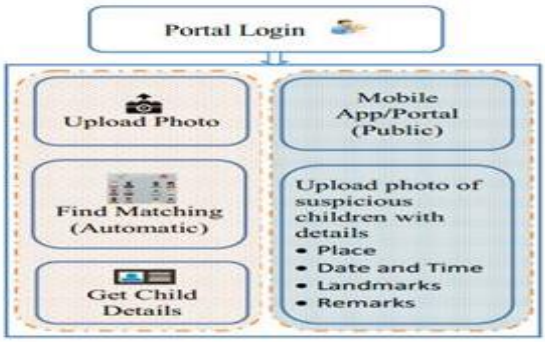
Keywords: KNN Classifier, CNN Model, Search, Email

1. INTRODUCTION

Children Are Each Nation's Greatest Asset. Every Country's Future Relies On The Proper Education Of Its Young. India Is The World's Second Most Populated Nation, And Children Account For A Considerable Share Of The Population. Unfortunately, However, Many Children In India Go Missing Every Year, For Different Reasons, Such As Kidnapped Or Kidnapping, Fleeing Children, Trafficking Children And Lost Children. One Profoundly Troubling Statistic Concerning India's Children Is That Although 174 Children Go Missing Each Day

On Average, Half Of Them Stay Untraced. For Different Reasons, Children Who Are Missing May Be Used And

Fig:-1 System Architecture



Mistreated. As Referenced In Parliament By The Ministry Of Home Affairs (MHA) In The National Crime Records Bureau (NCRB) Report (LS Q No. 3928, 20-032018), It Is Reported That More Than One Lakh Children (1,11,569 In The Number Currently In Use) Have Passed Out Until 2016 And 55,625 Of Them Remained Untraced Until The End Of The Year. Many Ngos Believe That There Are Far Higher Estimates Of Missing Children Than Reported. For Different Causes, The Missing From One Area May Be Discovered In Another Region Or State. So, Even If A Kid Is Recovered, The Reported Missing Instances Are Hard To Identify Him/Her. A Strategy And Technique Are Presented In This Article To Create An Assistive Tool To Trace Missing Children. An Concept To Keep A Virtual Space Is Suggested So That The Latest Pictures Of Youngsters Provided By Parents When Missing Cases Are Reported Are Kept In A Repository. The Public Shall Voluntarily Capture And Submit Pictures Of Youngsters In Suspicious Circumstances. This Picture Is Automatically Searched Among The Missing Kid Case Photos In The Program. This Helps Police Officers In Finding The Kid Wherever In India.

2. Related Work

Current System

The Police Are Usually Informed Of Missing Kid Situations. For Different Causes, The Missing Kid From One Area May Be Discovered In Another Region Or State. So, Even If A Kid Is Recovered, The Reported Missing Instances Are Hard To Identify Him/Her. A Strategy And Technique Are Presented In This Article To Create An Assistive Tool To Trace Missing Children. An Concept To Keep A Virtual Space Is Suggested So That The Latest Pictures Of Youngsters Provided By Parents When Missing Cases Are Reported Are Kept In A Repository. The Public Shall Voluntarily Capture And Submit Pictures Of Youngsters In Suspicious Circumstances. This Picture Will Be Automatically Searched Among Missing Kid Case Photos In The Program. This Helps Police Officers In Finding The Kid Wherever In India.

System Proposed

Here We Present A Technique For The Missing Kid Identification That Combines Deep And KNN-Based Face

Feature Extraction. The Method Suggested Uses Facial Recognition To Identify Missing Children. This Helps Authorities And Parents In The Investigation Of Missing Children.

IMPLEMENTATION

It Comprises Of A Nationwide Site For Storage And Photography Of Missing Children. Whenever A Kid Is Reported Missing, The Officer In Question And The FIR Submit The Picture Of The Missing Youngster To The Site. The Public May Search The Pictures In The Database For Any Matched Kid. The System Suggests The Most Comparable Instances. Once The Match Is Discovered, The Police May Get The Child's Information.

Preprocessing

Preprocessing The Input Raw Pictures For Face Recognition Requires The Acquisition Of The Facial Area And The Standardization Of Images In A CNN-Compatible Format. Each CNN Requires A Distinct Input Size. Photos Of Missing Children Obtained Via A Digital Camera Or Mobile Telephone Are Taken And Classified For The Creation Of A Facial Recognition System Database In Distinct Instances. The Face Area Of Each Picture Is Detected And Cut To Obtain The Input Face Images.

Photo Upload

It Comprises Of A Nationwide Site For The Storage And Photography Of The Missing Kid. Whenever A Missing Kid Is Reported Along With The FIR, The Officer In Question Uploads The Picture Of The Missing Youngster To The Site. Photographs Of Any Suspect Kid May Be Uploaded To The Site At Any Time With Information, Such As Location, Time, Landmarks And Comments. The Photograph Submitted By The Users Is Compared Automatically To The Pictures Of The Missing Children Recorded, And If A Similar Photo With Enough Score Is Discovered, An Alarm Will Be Issued. The Notice Is Also Shown In The Message Box Of The Official Login Screen Concerned.

Search

When Users Submit A Picture Of A Suspected Kid, A Template Vector Of The Facial Characteristics Is Generated From The Picture Provided. If There Is A Match In The Repository, The System Shows The Photograph Most Matched And Sends A Notification To Or From The Officer Portal Concerned Email The Kid Matching Alert Message. Likewise, The Officer May Check For Any Correspondence To The Database Using The Suggested Method At Any Moment.

Algorithm

Convolutional Neural Networks

```
input_image="person.jpg"

image=face_recognition.load_image_file(inputimage)

face_locations = face_recognition.face_locations(image)

for face_location in face_locations:
        top, right, bottom, left = face_location
        face_image = image[top:bottom, left:right]
        cv2.rectangle(inputimage, (left, top), (right, bottom), (0, 0, 255), 2)
```

3.EXPERIMENTAL RESULT

Fig: - 2 Home Screen

Fig:-3 Authority Login

Fig:-4 Data Upload

Fig:-5 Search Module Result

4 CONCLUSION

A Missing Kid Detection System, Which Combines The Powerful CNN-Based, Profound Learning Method For The Extraction Of Features And The Supporting Vector Machine Classification, Is Presented. This Method Is Tested Using A Deep Learning Model Trained On Children's Facial Characteristics. By Discounting The VGG-Face Softmax And Removing CNN Image Characteristics To Train A Multi-Class KNN, Better Performance May Be Achieved. The Performance Of The Suggested System Is Evaluated Using Children's Photos With Various Lighting Conditions, Noise And Also Childhood Photographs. The Classification Obtained A Greater Percentage Accuracy Which Showed That The Suggested Facial Recognition Technique May Be Utilized For The Accurate Identification Of Missing Children.

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