



Child abuse detection system using Machine Learning and Open CV

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Abstract :- Firstly child is detected, face and body is detected. Then elder human is detected by hands and legs motion. Then it is checked if more than 1 elder person is present in the monitored area. Next step is then distance is detection between child and the elder. If distance found to close to particular child face is then detected for checking any abnormality. Then by utilizing the attachment of Email to alert parents or authority of the place. Lastly accomplish the prevention by presenting the monitoring people at the location..

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I. INTRODUCTION

Firstly child is detected, face and body is detected. Then elder human is detected by hands and legs motion. Then it is checked if more than 1 elder person is present in the monitored area. Next step is then distance is detection between child and the elder. If distance found to close to particular child face is then detected for checking any abnormality. Then by utilizing the attachment of Email to alert parents or authority of the place. Lastly accomplish the prevention by presenting the monitoring people at the location. purchasing has become more efficient and popular. Most of the e-commerce websites use recommendation systems. These recommendation systems work on specific algorithms. Most of the e-commerce companies have their own algorithms of generating recommendations of the items to the user. The concepts which are mostly used to develop recommendation systems are collaborative filtering and content based filtering. Both of these concepts use its own technique to provide recommendation to user. Nevertheless, these techniques may have limitations and disadvantages of their own. Therefore use of Hybrid recommendation system are

preferred over the individual techniques. The use of such technique eliminates the limitations of individual algorithms and combines the advantages of these techniques to make one effective algorithm. In this paper we have included two effective algorithms for building recommendation system. The first being called as slope one algorithm which works on item to item collaborative filtering and the second called as min hash algorithm which generates result based on the user profile. Also a new concept of special basket has been introduced This special basket contains all those essential items desired by a particular user. Take a case of mother and a nutritionist. A special basket can be made for mother in which she can have all the items needed for her baby or a nutritionist can make a special basket for health-conscious people. The idea is providing everything at one place thus making easy for user to search among thousands of items.

Background:-

A key to reporting child abuse and neglect is being able to recognize common indicators. find factsheets, reference books, and research on definitions, signs, and symptoms of different types of child maltreatment. physical abuse. physical child abuse occurs when a child is purposely physically injured or put at risk of harm by another person. sexual abuse. child sexual abuse is any sexual activity with a child. this can involve sexual contact, such as intentional sexual touching, oral-genital contact or intercourse. this can also involve noncontact sexual abuse of a child, such as exposing a child to sexual activity or pornography; observing or filming a child in a sexual manner; sexual harassment of a child; or prostitution of a child, including sex trafficking. emotional abuse. emotional child abuse means injuring a child's self-esteem or emotional well-being. it includes verbal and emotional assault — such as continually belittling or berating a child — as well as isolating, ignoring or rejecting a child. medical abuse. medical child abuse occurs when someone gives false information about illness in a child that requires medical attention, putting the child at risk of injury and unnecessary medical care. neglect. child neglect is failure to provide adequate food, clothing, shelter, clean living conditions, affection, supervision, education, or dental or medical care.

Relevance:-

Shubhangi mankar proposed sms based arrangement utilizing gps framework to help guardians to follow their kids area continuously. these days, most cell phones are outfitted with area administrations capacities enabling us to get the gadget's geographic position continuously. the gps and gsm based frameworks are utilized to follow the area of child. It encourages the parent to get their tyke's area on an ongoing guide poonam patel et al proposed a framework is utilized for following the data of the lost tyke utilizing google map alongside the position and area of that tyke through gps. this procedure work just by keeping the "following framework gadget" into the sack of that specific youngster, who is going to class or outside world and now on the off chance that on the off chance that that kid is lost or missed, at that point the guardians of that specific tyke can essentially follow him/her by communicating something specific name "track" to the specific working gadget which has been kept inside that tyke pack. thusly the guardians get the continuous area by accepting the accurate position of the youngster alongside the longitude and scope of that place then it will be replicated into the google map and the area of that lost tyke can without much of a stretch be gotten to .

Project Undertaken:-

“Child abuse detection using machine learning and open cv”

methods used: emotion detection using machine learning and safe/ unsafe distance calculation using open cv methods .

Summery:-

A grocery store is a retail store that primarily sells food products. The Online Grocery System is the practical implementation of E-commerce for grocery goods. E-commerce (Electronic Commerce) is nothing but the selling or buying of goods and services online. As this should save their time and energy of visiting supermarkets and grocery vendors. Thus, this online grocery system has relieved people by providing access to all groceries and purchasing them by just sitting at home. The main objective of this e-commerce websites is to find out which products the customers might like to purchase based on his/her previous purchase history. A recommendation system also allows preparing more relevant personalized offers. Recommendations are used for making the work of the customer easier and faster. This reduces their valuable time and also the efforts. For this the recommendations given to the customer by this system is exact and fast.

Recommendation systems have been widely and fruitfully studied in recent years. The 2009 Netflix Prize collaborative filtering competition is the most famous of many studies examining the best way to recommend products and services to consumers. Grocery recommendations are a tougher nut to crack. Unlike Netflix, this has a limited number of movies and TV shows to credibly recommend, grocery shopping presents a challenge in its high sparsity. A grocery store stocks thousands of items, yet most people only buy a handful of them at a time. Analysis of this question has included methods like basket-sensitive random walks and SVD approximations to recommend items to consumers. Others have delved more into the theory, hoping to lay out a process that incorporates both product and user features

into a recommendation process. A problem specific to our methods, uneven class label size in binary classification, has been studied as well. Work has been done in gauging the benefit of weighing to offset the class label skew, a method we utilize via Sci-kit's class weight argument. The results are not always promising or consistent, with at least one paper showing that improving classification scores on the underrepresented class comes at the expense of overall classification. Other work has acknowledged the difficulty in measuring correctness with class skew, recommending data and domain-specific approaches for evaluation. The inconclusiveness of research related to class label skew is reflected in a recent survey and even in our own findings.

II. LITERATURE SURVEY

Amongst the first ones to apply supervised learning to the task of abuse detection were 1. Yin et al. (2009) who used a linear SVM classifier to identify posts containing harassment based on local (e.g., n-grams), contextual (e.g., similarity of a post to its neighboring posts) and sentiment-based (e.g., presence of expletives) features. Their best results were with all of these features combined. Djuric et al. (2015) experimented with comments extracted from the Yahoo Finance portal and showed that distributional representations of comments learned using paragraph2vec (Le and Mikolov, 2014) outperform simpler bag-of-words (BOW) representations in a supervised classification setting for hate speech detection.

Nobata et al. (2016) improved upon the results of Djuric et al. by training their classifier on a combination of features drawn from four different categories: linguistic (e.g., count of insult words), syntactic (e.g., POS tags), distributional semantic (e.g., word and comment embeddings) and BOW-based (word and characters n-grams). They reported that while the best results were obtained with all features combined, character n-grams contributed more to performance than all the other features.

Waseem and Hovy (2016) created and experimented with a dataset of racist, sexist and clean tweets. Utilizing a logistic regression (LR) classifier to distinguish amongst them, they found that character n-grams coupled with gender information of users formed the optimal feature set; on the other hand, geographic and word-length distribution features provided little to no improvement. Working with the same dataset, Badjatiya et al. (2017) improved on their results by training a gradient-boosted decision

tree (GBDT) classifier on averaged word embeddings learnt using a long short-term memory (LSTM) network that they initialized with random embeddings. Waseem (2016) sampled 7k more tweets in the same manner as Waseem and Hovy (2016). They recruited expert and amateur annotators to annotate the tweets as racism, sexism, both or neither in order to study the influence of annotator knowledge on the task of hate speech detection. Combining this dataset with that of Waseem and Hovy (2016), Park et al. (2017) explored the merits of a two-step classification process. They first used a LR classifier to separate abusive and non-abusive tweets, followed by another LR classifier to distinguish between racist and sexist ones. They showed that

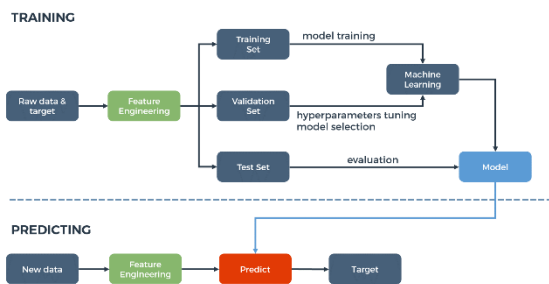
this setup had comparable performance to a one-step classification setup built with convolutional neural networks.

Davidson et al. (2017) created a dataset of about 25k tweets wherein each tweet was annotated as being racist, offensive or neither of the two. They tested several multi-class classifiers with the aim of distinguishing clean tweets from racist and offensive tweets while simultaneously being able to separate the racist and offensive ones. Their best model was a LR classifier trained using TF-IDF and POS n-gram features, as well as the count of hash tags and number of words.

Wulczyn et al. (2017) prepared three different datasets of comments collected from the English Wikipedia Talk page; one was annotated for personal attacks, another for toxicity and the third one for aggression. Their best performing model was a multi-layered perceptron (MLP) classifier trained on character n-gram features. Experimenting with the personal attack and toxicity datasets, Pavlopoulos et al. (2017) improved the results of Wulczyn et al. by using a gated recurrent unit (GRU) model to encode the comments into dense low-dimensional representations, followed by a LR layer to classify the comments based on those representations.

III. BLOCK DIAGRAM

Given below is the block diagram which showing the child abusing detection system working.



1. Block Diagram.

Block Diagram Description

Raw Data: must be prepared. data collected from your domain is referred to as raw data and is collected in the context of a problem you want to solve. this means you must first define what you want to predict, then gather the data that you think will help you best make the predictions

Dataset Source: standard data sets compatible to selected algorithms and used with basic customization. datasets available online links and created or customized with relevant to our outputs. datasets are stored and fetched from project folder

Feature Engineering: is the process of using domain knowledge to extract features from raw data. a feature is a property shared by independent units on which analysis or prediction is to be done. features are used by predictive models and influence results.

Prediction: refers to the output of an algorithm after it has been trained on a historical dataset and applied to new data when forecasting the likelihood of a particular outcome

Anaconda: boa constrictor it is a free and open-source distribution of the python and r programming vernaculars for coherent computing (data science, ai applications, generous scale data taking care of, perceptive

examination, etc.) pack variations are managed by the pack the officials system conda.

Open CV: computer vision is a field software engineering that tackles engaging pcs to see, perceive and process pictures comparatively that human vision does it is a troublesome endeavor to enable pcs to see pictures of different things.

Spyder: it is an opensource cross-arrange facilitated improvement condition (ide) for coherent programming in the python language. it joins with different observable packages in the intelligent python stack including numpy, scipy, pandas, Rpython, and python, similarly as other opensource programming.

Information gathering: In this part we are gathering the basic information of user i.e. Name, gender, age, occupation etc. With this we can track the browsing history of user as well as recording the purchasing behavior of that user.

Database: This part is to store all purchasing behavior and purchase histories of a user.

Analyzer: This part is to analyze database contents for obtaining product similarities, individual interests so with these details we can estimate user preferences. We use these user preferences to absolutely evaluate the needs of a user.

Recommender: This part is to produce a recommendation list for a specific user according to the analysis result. The recommendation list shows the products which are most likely to be purchased.

IV. ADVANTAGES AND APPLICATIONS

Advantages

- Facial emotion recognition can improve the performance of human-computer interaction and help to construct more intelligent robots with the ability to understand human emotions.
- It can be used to help identify autism patients and distinguish emotions.
- Facial emotion recognition can help a blind person understand the emotions of the person they are talking to.
- Software is easily available.
- Easy to implement.

Applications

- It can be widely applied to various research areas, such as mental diseases diagnosis and human social/physiological interaction.
- It can be used in schools and crowd areas to detect the behavior of children
- It has applications in many fields such as robotics, behavioral science, lie detector, animation.
- It is an integral part of psychology, forensics and social media.

V. CONCLUSION

Using competitive machine learning model, this study introduce a novel approach to detect abnormal behaviours in people. a kind of feature extraction and description method has been put forward for particle flow information about crowd motion applying to space-time feature cubes firstly.

then a emotion detection algorithm is proposed to detect abnormal events in region or particular place which combined with space-time features and competitive ML model. experimental results obtained by using test video sequences so method is capable of detecting and locating the abnormal / unsafe behaviours.

VI. REFERENCES

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