Human Emotion Recognition in Video Data Using Deep Learning Frameworks

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Abstract

Human emotion recognition is a crucial application in human-computer interaction (HCI). This task is done using facial expressions as main modality. This work focuses on recognition of facial emotion expressions in video sequences and proposes an integrated and hybrid deep learning frameworks. Reasonable interaction is the basic form of interaction; it exists in social interaction, role interaction and symbolic interaction, interactive mode and has its particularity. The reason is the subject consciousness of autonomous interaction based on equality and full democratic conditions, because the main body needs and beliefs, purpose and value driven, between the main bodies in the subject. Between the main body and the social, emotional, attitude, a series of interactive response or change process of cognition and behavior. The structure of Ideological and political education reason interaction mechanism mainly from the sense of Ideological and political education interaction, process and mode, environment and other aspects of the ideological and political education structure is the main reason of interactive behavior, emotion, the cognitive nodes, multiple structure transmit information through language or symbols such as the ideological and political education; reasonable interaction process is in a certain environment, because of the need. There will be a series of patterns to interact with each other, and then interact with each other in order to form a series of patterns.

I Introduction

The course of Ideological and political schooling is made out of an assortment of components, driven by its intrinsic inconsistencies, and as indicated by the inborn law of persuasive turn of events, has its own qualities and improvement regulation. The course of the arrangement and improvement cycle of the philosophical and political schooling and individuals' philosophical and moral is solidarity. In the sensible society, the arrangement of individuals philosophy, change and improvement, profound sentiments, changes and patterns are social association with others, individuals; feeling, the change and the pattern straightforwardly influences the arrangement of individuals' belief system, change and advancement, thusly, the arrangement of individuals' philosophy, change and advancement and guide individuals close to home sentiments, changes and trends[1-4]. Reason collaboration all over, there is consistently, it not just exists in individuals' philosophy arrangement, change and advancement, exist in individuals' inclination, change And the pattern, additionally go through the philosophical and political training process, reason association is the fundamental type of the philosophical and political schooling process.

The connection between the explanation communication, a homegrown and unfamiliar researchers join extraordinary significance to schooling in the philosophical and political training and thusly likewise shaped some experienced and wonderful system. These components to feature the understudies' singular worth and social worth acknowledgment and bound together rule, these systems have had a significant effect and job in advancing the training, and the execution of the school generally, family and different parts of the philosophical and political schooling capacity. The job of these systems exemplified in the unobtrusive worth aide, item mindfulness preparing, and objective foundation, as far as appreciation development, a ton of content on the philosophical and political training is vital yet the absence of viability of the objective. The particular execution of sensible unfamiliar philosophical and political instruction intelligent component to abstain from teaching, pushing life, focus on stir the internal object of Education Factors[5]. Teachers are not tolerating essentially as latent articles acknowledge a few responses, however to urge them to the character of the subject to partake during the time spent schooling, into the job to understudies through the foundation of the scene, and guide them to encounter, to invigorate their energy and imagination, make training assimilation impact, the informed lay out virtues by and by ace the fundamental abilities of endurance in the general public, has the will, investigate the free soul of participation and regard for other people, the reasonable level of relational relations. Understanding the world particularly the act of the development of sensible collaboration component of Ideological and political training in created nations, the qualities and attributes, we can unbiasedly and completely their ongoing level and the advancement status, to ceaselessly support figuring out how to the universe of fruitful experience, drive and criticalness of successful strategies, to improve and enhance our reasoning sane cooperation instrument and arrangement of political schooling.

The acknowledgment of Ideological and political schooling of logical explanation communication is the situation with training and ought to be presently Ideological and political schooling and the foundation of the relapse, is the disavowal of training and customary information in the philosophical and political training status and practice, is the quintessence of Ideological and political instruction in the legitimate importance. The philosophical and political schooling exercises, training is the philosophical training in the data encoding, the shipper and the pilot, which plays a main part in the connection, is the cooperation of the source; the informed is translating data in the philosophical instruction, the beneficiary and the criticism, it is exemplified with the impact of philosophical and political instruction quality [6]. Since the job of teachers and the informed in the feeling of Ideological and political schooling in the cooperation of constant trade, which are data sent, and is the beneficiary of the data, in the collaboration with the subject Who is the middle and establishment association. The training as per the prerequisites of specific schooling, through regard and develop understudies' philosophical quality during the time spent schooling, foster their discretion capacity, urge them to realize, all living in and around the positive experience, the arrangement of character and character of autonomous sound, and at last advance the overall improvement of understudies. Just assume the primary part of teachers and understudies' driving job, to lay out the situation with science teachers and the informed during the time spent Ideological and political training in the philosophical and political schooling to really do wellbeing [7]. The inclination is displayed in Figure 1.

Ii Related Works

The rise of web collaboration space and web society and the conventional papers, radio and TV media joining and improvement is reason of philosophical and political training to make another intuitive mode. For the explanation of philosophical and political training network connection gives boundless, endless assets [8]. The data network not just advance the philosophical and political schooling sensible intelligent substance relies upon the data, and as it were, likewise started to utilize the data discharge, move, screening, sifting and mix. The advancement of organization innovation, to give data to individuals simultaneously, additionally expanded the trouble of data beneficiary choice data [9]. Accordingly, the organization philosophical and political schooling to do sensible association is vital.

2.1 The Establishment of Rational Interaction Mechanism Under the Internet Environment

The establishment of reasonable interaction between teachers and students, the key factor lies in the communication between students and teachers of the heart and the heart. Love students, respect students, understand students establish the reasonable interaction mechanism of the minimum requirement [10]. Only the existence of interaction between students and teachers, there is mutual understanding and tolerance. For ideological and political education work, we should pay attention to the cultivation of this reason interaction mechanism [11]. Students and teachers because of the difference of the age difference exist on the integrity of cognition and objectivity. Sometimes, for

good and evil, beauty and ugliness of the understanding is there is a big difference. In the course of ideological and political education, the teacher should not impose their views of indoctrination to the students. Students in cognition the presence of this indoctrination will sometimes bring serious consequences [12]. The teacher more should be how to guide and help students to distinguish between rights and wrong, eliminate misconceptions.

The ways are shown in table1.

Table 1 Emotion and reason interactive mechanism under the Internet environment using deep learning

Internet platform helps students communicate with teachers, and promote interaction between students and teachers	In view of the current Internet resources, to provide a commu bridge of student and teacher interaction framework. On the teacher and students have their own personal space online, and these spaces are anonymous. Not only that, every scho school forum, students can communicate without psycholog
Strengthen the teacher's knowledge of Internet information and train students' ability to distinguish between right and wrong	The spread of negative news network, it is easy to have a ne psychology. Therefore, through the ideological and political correct non moral concepts, so that a student of there is an situations, as teachers should keep pace with the times, alw the first time to grasp the situation, targeted to the network a response, scientific and reasonable to guide students to think deeply, through the emotions and the wrong view appr
Strengthen the Ideological and political education reasonable interaction mechanism innovation, improve students' interaction based on the Internet	On the Internet platform, because of ideological pluralism, th a kind of training or counseling, in essence it is constantly m seeking truth from facts, keep pace with the times of Ideolo the existing mainstream reports, through the existing schoo delivery of the correct sound to the students, transfer the cor interaction with the students, in order to achieve better effect political education.
Promote online and offline teaching, and promote the reform of ideological and political teaching mode	With the help of the Internet, the use of mu can promote the of Ideological and political education. For example, some co political course onto the network platform, students in the sc watch online video, guidance material reading teacher caref complete online exercises and tests.

It is important to construct incredible grounds culture and empower understudies to foster the capacity to recognize good and bad. Because old enough limitations, an understudies come up short on capacity to recognize, extension of how much data in the organization climate, will make the understudies impacted by the negative variables, to assist understudies with laying out a right idea is a significant essential for reasonable non-become the philosophical and political schooling. Establish a positive climate to assist understudies with laying out a right comprehension of non-cognizance, make the grounds network culture can empower understudies to shape a positive and illuminating.

Educators ought to answer the ongoing organization area of interest as quickly as possibly. In the organization life, hot issues frequently accumulate high fame, and the transparency of the organization of discourse, with the goal that each perspective might be missing realities given, on the grounds that the understudies come up short on specific sense, for a few generally extreme perspectives or disposition might follow, which entered the hot organization off track. Isn't controllable, it is challenging for an educator in the homeroom or notice the typical showing work, so the issue happened, instructors should be the initial opportunity to manage, grasp the mindset of the understudies and the occasions of the most recent patterns, logical and sensible to direct understudies to investigate, comprehend and take care of issues, through powerful remedial vent and some unacceptable perspective on terrible mind-set, to urge understudies to lay out sure and right philosophy [13].

Work on the energy of understudies' support in Ideological and Political Education under the Internet climate. The subject of Ideological and political instruction of understudies is the explanation association component, the crucial motivation behind Ideological and political training is to assist understudies with laying out the right qualities and world standpoint, it need to further develop the misleading data screening network understudies, capacity of data esteem judgment. According to the viewpoint of schools, the development of the Internet intuitive structure, select all the more effectively understudies comprehend and acknowledge the intuitive subject, beginning from the fundamental explanation and interests, completely activate the cooperation of the understudies, motivate understudies to take part in intuitive interest[14]. Just understudies dynamic support level, to the communication to do understudies philosophical and political training in the philosophical and political schooling, understand the collaboration component moved along.

Make an extensive development of the significant transporters of the collaboration system of philosophical and political instruction. For philosophical and political schooling, the customary training strategy is exceptionally simple to split away from real life, the arrangement of self-confinement. In the Internet climate, the philosophical pluralism, philosophical and political schooling to comprehend the subject and object of Ideological and political instruction isn't a preparation or preparing, rather than the numerical equation, fundamentally it is like the arrangement and improvement. Accordingly, to utilize more open and adaptable showing strategies, work on the viability of schooling and essentialness.

2.2 The Influence of Internet on Interaction Mechanism

The effect of the Internet influences the philosophical and political instruction of understudies: understudies, instructors: educators. The Internet has brought a lot of intricate data, positive and negative. The expansion of data web brings the truth we can't change, and we can't be outright separating on the gotten the data, we can do is to maximally dispense with the antagonistic impacts of schooling and training is more, applying positive impact [15].

The Internet can change in the impact of Ideological and political training regarding the matter and article, or more execution for the foundation of viable connection system under sensible far reaching impact, this approach might be all the connected hypothesis scientists are worried about the heading of work. The reason to lay out successful sensible communication system depends on the effect of the Internet on sensible association component exhaustively.

The Internet has significantly extended the philosophical and political schooling of understudies based on sensible communication instrument activity stage. Contrasted and conventional homeroom stage, the Internet stage has broken the first reality limit, sensible communication system to do decently fast and effectively, can cause understudies philosophical issues to be settled successfully in an exceptionally brief timeframe as a matter of fact, the Internet stage impact. The greatest is the opposite of the customary explanation cooperation component model, changed the first tedious up close and personal mode, to allow the understudies to talk before feel timid say reality, so understudies' philosophical issues can be completely reflected in the philosophical and political training work to finish.

The Internet has enhanced the philosophical and political schooling in crafted by training, dynamic schooling thinking. From a great deal of issues and Countermeasures of understudies' reasoning and political schooling hypothesis research, most specialists mirror the instructors work structure a solitary, in reverse reasoning. Be that as it may, we ought to know how ladies make blocks without straw explanation, the customary homeroom showing regardless of whether the update structure and thinking, actually can't manage without the study hall teaching this major reality, yet the Internet can on a very basic level advance instructive work as development and dynamic reasoning. Since the Internet gives teachers plentiful training assets, and these assets are very simple to get. There are plentiful assets upholds. Instructors can frame development and rich, and as development and rich simply can invigorate teachers thinking, starting here of view, the Internet is more a linkage impact. Moreover, teachers can likewise share and learn work insight through the Internet to work on their capacity to obtain.

The Internet has extraordinarily animated the interest of understudies. Truth be told, the customary philosophical and political training of understudies cause understudies to have tired is unavoidable, on the grounds that it concurs with the human brain research. We know the explanation communication component has been created, yet in the philosophical and political schooling work in the customary frequently can't successfully play the impact, in light of the fact that the training of their capacity to get a handle on the contention the deficiency and the understudies' internal majority rules government and uniformity, this system frequently can't be really reflected. Thus, the purported reason connection component of the philosophical and political schooling is more elderly folks teaching discipline late age, instructors are as yet showing predominant demeanor, understudies have tired brain science of Ideological and political training no interest in training, has turned into something characteristic.

The Internet under the sensible collaboration component really just, equivalent and free of one another, in order to prepare the energy of the understudies, in addition to the Internet's one of a kind allure, understudies will normally have major areas of strength for an in the philosophical and political training work. Under the climate of Internet reason cooperation system is the greatest quality of displaying rich cases as per the issues of the understudies philosophical training, to accumulate numerous comparable cases in the Internet, to show understudies the widespread issues, dissipate their feelings of dread, let them put down the mental weight. The Learning under Internet climate is displayed in figure 2.

Interpersonal relationship means the possibility of no feedback from talks. In addition, it does not necessarily provide feedback in terms of facial expressions and nonverbal sounds that require emotions. However, from the traditional mouse and keyboard to the automatic voice recognition system, tools that have less interaction evolve into completely user-friendly ones. These valuable interpersonal skills are also useful for the disabled, which is the new trend of the special interface of man-machine interface. If computers can recognize these emotions, they will better identify human needs so that they can provide appropriate assistance, fully able to meet users' needs and preferences under the user mode in deep learning.

From widely-accepted psychological theory, human emotions can be divided into six prototype emotions, that is, surprise, fear, disgust, anger, joy and sadness. The performance of facial movements plays an important part in the development of these emotions. You can make different sounds by changing your facial muscles or you can change the sound, the tone and the energy on purpose. Humans can identify these signals by simultaneously processing the information received from the ears and eyes, even if they are ingeniously displayed. Based on psychological research, when the perceived language of visual information is modified [16], it can be assumed that emotion perception in humans follows similar trends. Inspired by these clues, 18 people, recorded video and audio data, and two persons were requested to identify the ongoing experiments by using visual and audio information [17]. They conclude that some emotions, such as anger and happiness, are more recognizable through voice, while other emotions such as sadness and fear are not. In addition, shows that the two models together provide two additional advantages to improve the performance of the system [18]. Although some automatic emotion recognition systems have been exploring the use of facial expressions [19] and relatively fewer efforts are made to detect the state of human emotions, emotion recognition using two modes received more and more attention. We hope that multi-mode approach will not only provide excellent performance, such as access to these models in occasionally noisy environment, but also provide more powerful identification capabilities. These early studies on the decision of facial expressions and acoustic information are not very comprehensive, including the use of appropriate standards and output characteristics, and the integration of single-layer system in single-layer data from two classification methods in deep learning. However, do not try to compare those melting methods that are suitable for emotion recognition. In this paper, the system evaluates the performance of the entire underlying system.

2.3 Emotion Recognition Based on Language

A few strategies for recognizing feelings from discourse have been accounted for. A complete survey of these techniques can be found in [20]. In a standard based varying media feeling acknowledgment framework, the result of the single-mode classifier is combined at the dynamic level. They use cadence highlights separated from the sound, and the greatest distance as well as speed from six explicit face focuses in the video. Most analysts utilize musical elements since voice prompts feeling acknowledgment and works out the quantity of measurable talk level sentences, for instance, the normal of the energy profile, standard deviation, the greatest size and the base size of high pitch words. It endeavored to arrange four kinds of human feelings by using pitch-related highlights. There are Maximum Likelihood, Bayesian Classification (MLB), Kernel Regression (KR) and K Nearest Neighbor (KNN). They carry out three distinct classifiers. Fischer straight classifier, Roy and Pentland [21] are undeniably used to accomplish comparative work. Approval: they recognize two feelings utilizing phrases. They complete a few investigations, separate the greatest probability, and get 65% of the energy from the estimations with a precision of 88%.

The significant impediment of the general degree of acoustic highlights lies in that they can't depict the powerful changes in talk. To take care of this issue, for instance, acoustic highlights can be utilized to follow otherworldly changes in halfway even section and momentary ghostly attributes of dynamic changes in profound discourses. Concentrates on show that Mel Frequency Cepstral Coefficients (MFCC) is utilized to prepare Hidden Markov Models (HMM) to recognize four sorts of feelings. [9] Tries to group model feelings utilizing Mel sound sign of force list 12 to prepare the secret Markov model. The typical exactness of these two techniques is somewhere in the range of 70% and 75%. At last, different techniques for investigating language and talk data, and a few words along with sentiments can be dissected with different models [10].

Iii Methodology

3.1 Emotion Recognition Based on Facial Expressions in deep learning

This is also about the expression of important emotional clues. Therefore, several methods are proposed to classify the state of human emotions. The functions used are usually based on local spatial location or speech, or displacement of facial region of global speech feature of different statistical methods being used. We have proposed a method of using the main direction of the Mase specific facial muscle emotion recognition system in deep learning. There are 11 window manuals mentioning face in movement. Muscles are extracted through light flow. Joy, anger, disgust and surprise: the classification is carried out with the use of class K nearest neighbor rules with an accuracy of 80% to 85% of the emotions [21]. They do not use facial muscle movement; instead they create a dictionary, where the edges and frame of mouth, eyes and eyebrows are relevant through appropriate mapping. The rule-based system divides it into six basic senses with an accuracy of 88% by using them.

Black extraction model parameters use mouse, as well as the shapes and movements of eyes and eyebrows. They also use similar methods of constructing facial expressions in a higher level with an accuracy of 89%. In order to distinguish action units (AU), Ekman and Friesen attempted to use permanent and temporary facial features such as lips, nasolabial folds and wrinkles in 1978. By using these functions, the shape model of the shapes and appearances can be found. These precision reaches 96%. Essa and others developed an independent parametric model based on facial muscles to quantify facial movement systems[12]. They simulate by the dynamic movement of a model based on the combination of facial shape, physical and optical flow. The time template points directly to the space of emotion recognition. Without considering sadness in work, a recognition accuracy of 98% is achieved.

3.2 Emotion Recognition of Dual-mode Data in deep learning

Somewhat less endeavors are centered around the utilization of looks and sound data in the accomplishment of feeling acknowledgment framework. It proposed a standard based varying media feeling acknowledgment framework in which the result of the single-mode classifier is joined at the dynamic level. They use mood highlights of the sound, and the greatest distance as well as speed from six explicit face focuses. Chen and others additionally proposed comparable strategies. As per the prevailing method of emotional tests led in applicable writing [13], it is utilized to manage the distinctions of the results of the single mode framework. In two explores, they reason that when the two techniques are utilized together, framework execution is gotten to the next level.

Iv Results And Discussion

4.1 System Based on Facial Expressions in deep learning

In the visual information system shown in figure 3, the spatial data collected from each tag in the video frame is classified as input and reduced to the four-dimensional eigenvector of each sentence [22]. After the data is captured, it is normalized: the center of each nose marked as local has a neutral position, which is also called the frame coordinates, indicating that all signs are translated. Three stiffness's that are close to the Zuizui frame have similarities. The reference mark is transformed into a frame image by imaging (manually selected as a blue dot in the figure and shows 1) and defines the origin of each local coordinate system. For the rotation of each frame and reference frame, this paper makes adjustment to it. In the area of forehead, eyebrow, low eye, right cheek and left cheek (see figure 3), each data frame is divided into five blocks. For each block, the three-dimensional coordinates that mark blocks are connected to form a data vector together. Next, the method of principal component analysis (PCA) fluctuations with over 99% coverage is used and the number of frames of each 10- dimensional vector in each related region is reduced. Be careful that emotion recognition system barriers make the sound utterance recognizable as a smile, leading to the failure of recognizing lips as close to the mark.

It is worth noting that each frame obtains a 10-dimensional eigenvector in each block. Local information can be used to train as a dynamic model of HMM. However, in this paper, we decide to use a global system of single-mode function at the discourse level. The eigenvectors are the discourse of obtaining low-dimensional eigenvectors of each preprocessing. The emotions with ten different dimensional features in the five blocks (figure 4) actually occur in different clusters. The classification frame level K-Nearest Neighbor Classifier (K= 3) is used, and the number of emotion categories of each frame is counted for each cell, where the blocks that obtain the sound level are 4-dimensional vectors. The spatial position of face point is used not only when the mood is displayed, but

also when the global pattern is utilized or the level of the feature vector in speech is shown. More than 50% of the frames are classified as happiness. If they are classified as sadness, more than 90% of the frames are shown to filled with happiness. With the use of such information, SVC classifier improves a lot in its system performance. In addition, facial features and global synchronization of acoustic characteristics are not necessary with the use of this method. Therefore, the integration with functional level is easily achieved. As shown in figure 4, better emotional face recognition is carried out in the system in order to implement a separate SVC classifier for each block. As shown in the figure, this study adds five categories of four-dimensional feature vector blocks. The system is called a combination of expression discriminators.

4.2 Result Analysis

Table 1 shows 5-dimentional facial performance with combinations of all facial expression categories and emotional expressions based on face recognition system. The table reveals that the cheek provides valuable information for classification of emotions. In addition, the eyebrow which is widely used for facial expression recognition has the worst performance. Now, there is no mistake to classify according to the facts described in figure 5. Figure 5 shows that happiness is collected individually and identified easily in PCA dimension space. In Table 2, the five blocks show that the classification accuracy of expression combination is 85%, and the majority of the classification is above the surface. Please pay attention that this database is recorded from a single female student. It is evident that more experiments should be conducted to evaluate the results of other objects.

Table 2 Decision-level integration using deep learning

	Integral	Angry	Sad	Happy	Neutral
Majority	0.82	0.92	0.69	0.99	0.65
Maximum	0.84	0.87	0.73	0.98	0.75
Averaging	0.83	0.89	0.72	0.97	0.70
combining	0.84	0.86	0.75	0.98	0.77

Table 3 Facial expression classifiers using deep learning

Region	Integral	Angry	Sad	Happy	Neutral
Forehead	0.73	0.81	0.66	0.99	0.46
Eye	0.68	0.55	0.67	0.98	0.49
Ear	0.81	0.82	0.78	0.97	0.65
Right face	0.85	0.86	0.76	0.99	0.79
Left face	0.80	0.84	0.67	0.98	0.67
Combined classifier	0.85	0.79	0.81	0.99	0.81

It can be considered that the combination of facial expression classification is a feature-level integration method that mixes a five-block function before classification. These categories can also be integrated at the decision-making level. Table 3 shows the performance of blocking the converged classifier system with different criteria. In general, the results are very similar. All these performance level rules that are decided perform slightly worse than expression discriminators. Table 4 shows the combination of expression classification confusion matrices for the purpose of restricting detailed analysis of emotion recognition system. The overall performance of the classifier is 85.1%. The table shows that the happiness identified enjoys a very high degree of precision. The accuracy of another three kinds of emotion classification is about 80%. Table 4 also shows anger and sadness (18%), neutral state and happiness (15%) in the field of facial expression. The anger and neutral state in the expected dual-mode classifier will display good performance because it can still be separated with high precision in areas of sound, sadness/ anger and neutral/ happiness. This table shows the chaos of sadness and neutral state (13%). Unfortunately, in the sound field (22%), these two emotions make people confused. Therefore the sadness recognition ratio we expect from the dual-mode classifier is worse. Under such circumstances, other information needs identification of more clues.

Table 4 Confusion matrix using deep learning

	Angry	Sad	Happy	Neutral
Angry	0.77	0.18	0.01	0.03
Sad	0.04	0.81	0.02	0.13
Happy	0.01	0.01	0.99	0.00
Neutral	0.01	0.04	0.15	0.81

Among the various modes used by humans to identify emotions, the expectation of automated multi-mode system will be higher than that of single mode automation system. The results of this research have proved the hypothesis that the absolute value of the two-mode method increased by almost 5%

compared with the performance of face recognition system. The results show that it is very easy to categorize in one mode and cause confusion. For example, in general, expression emotion classifier of anger and happiness will be grouped under a more precise area. Therefore, these two modes, if the emotions are correctly classified, show that the integration in the function level achieved perfect performance. Unfortunately, it performed poorly because it is two different classification areas, where sadness and chaos remain neutral. The result of this study is that the performance of voice information system, which is worse than emotion classifier, has this function, but elements that are valuable to visual information cannot be extracted from emotions. These results are consistent, indicating that audio and facial expression data reported by Chen and others can serve as additional information. On the other hand, you can get rational feature patterns of current numbers and expect to use audio or visual features. Improving the performance of inappropriate emotion recognition system is very valuable in obtaining an intrinsic pattern of redundant information. For example, more complex errors occur when facial expressions are extracted. In this case, the speech features can be used to overcome the limitations of visual information.

Conclusion

This study analyzes the emotion advantages and weaknesses of facial expression classifiers and acoustic classifiers. In these single-mode systems, some emotions are usually wrongly classified. However, the results presented in this paper show that most of these barriers can be tackled with different models. Therefore, in some cases, the performance of emotion classifier is more effective than single-mode system in language expression. Compared with using the two methods separately, the integration of functional level and judgment level enjoys wider use. The overall performance of the two methods is similar. However, specific emotion recognition rates demonstrate significant differences. Compared with expression classifier, the dual-mode functional classifier accurately identifies anger and neutral conditions, which is the best single-mode system. In the decision-making dual-mode classifier, happiness and sadness are classified with high precision. Therefore, the best fusion technology depends on application. The results of this study are feasible in that accurately identifying the state of human emotions through audio and visual patterns is reachable. Therefore, in the future, this paper will be committed to promoting the perception feedback of man-machine interface, responding to users' changes of emotional state properly and timely, and improving the performance and participation of the current interface. Reasonable interaction mechanism is an important content of the ideological and political education; this mechanism can ensure the equality of communication and mutually independent values. This is an effective mechanism of the ideological and political education work to achieve the fundamental guarantee for long-term development. In the Internet environment, reasonable interaction mechanism influenced by many aspects, the main reason for the performance effect of the interactive platform is widening, the educators work form become rich and thinking can effectively active; students' interest and enthusiasm have been mobilized. In a word, the Internet is a double-edged sword, for students, bringing a variety of information and knowledge, broaden the field of contact surface at the same time, it also brings the risk of students thought and value orientation deviation. The ideological and political education of students, in brings the original education mode and channel challenges at the same time, also brought the students ideological and political education work new ideas and platform. Reasonable interactive mode of the ideological and political education by relying on the development of the Internet is imperative, and explore its mechanism is particularly urgent.

Declarations

Conflict of Interest

This paper has not communicated anywhere till this moment, now only it is communicated to your esteemed journal for the publication with the knowledge of all co-authors.

Ethical approval

This article does not contain any studies with human participants or animals performed by any of the authors.

Code availability

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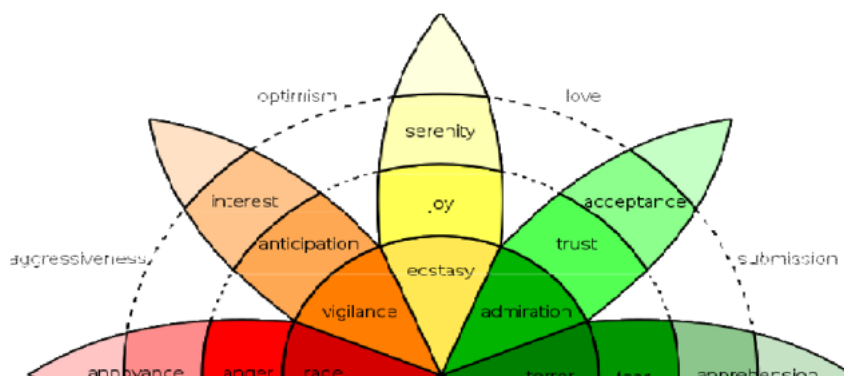
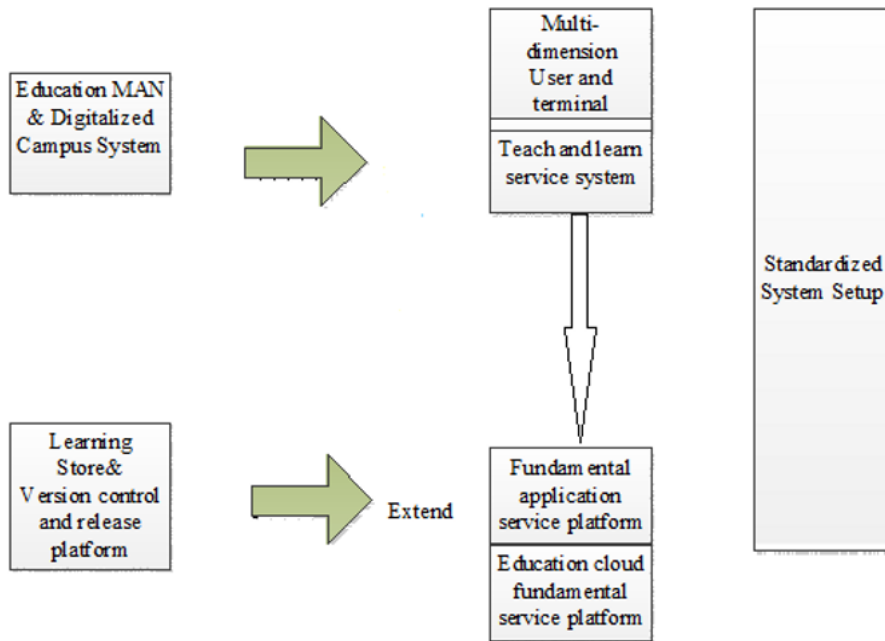## Figures

Figure 1

Emotion and ration

Figure 2

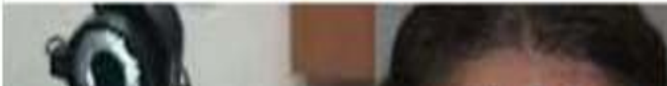Learning under Internet environment

Figure 3

Data recording system using deep learning

Figure 4
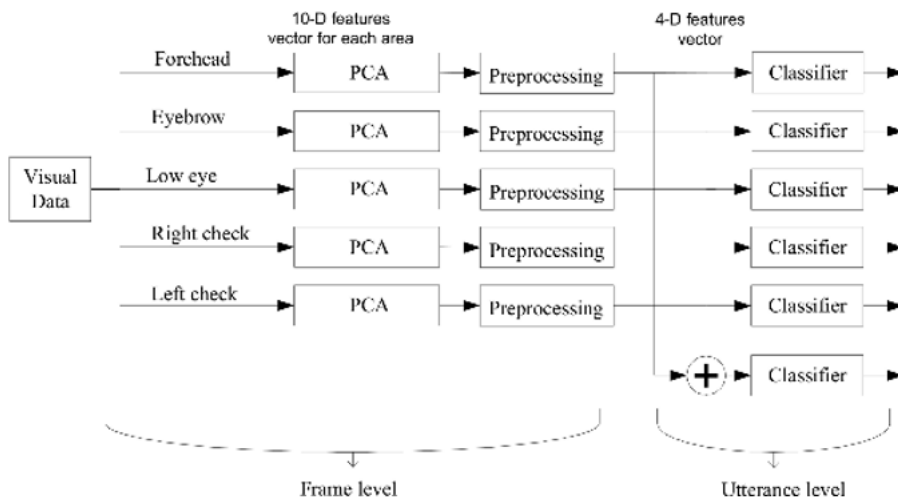
Five areas of the face considered in this study using deep learning

Figure 5

System based on facial expression in deep learning