

Survey on Online Auction System

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ABSTRACT

The need is to develop an auction system that offers the maximum level of security as commodities are involved in the process. The system must give exclusive access to the buyers and sellers to put the product for auctioning and bidding. Online auction systems such as eBay are becoming increasingly more important mechanisms for people to buy and sell items online. In general, e-commerce is becoming fundamental for transacting business around the globe. The added convenience of online transactions also comes with the risk of electronic fraud. Before any assertions about the amount of fraud in the online auctions can be made, the underlying nature and structure of online auctions must be understood. In this paper, we provide definitions of a good auction from the viewpoints of the stakeholders of the auction.

The "Smile to Pay" project is designed to make the orders from any online platform using 2 characteristics of the user one is physical i.e., his face and the other is a smile. Choosing physical characteristics to make payment gives the advantage of secure payment on any order and using a smile as another characteristic gives the advantage of the threat of using other person's credentials. With the help of machine learning face recognition, these are implemented and the output is displayed using a web application. With the rapid growth of mobile and the huge internet usage. There is a huge demand for online shopping. A crucial step in shopping online and payment is the authentication of the user. Traditional authentication system uses pin and OTP. These are found to be weak authentication methods because these can be stolen from the user.

I. INTRODUCTION

Face recognition methods in the literature can be divided into image-based and video-based methods. Image-based methods generally use the facial appearance features, while appearance and dynamic features of the face can be used together in the video-based methods. Although high face recognition rates can be achieved under controlled environments using good quality images, face recognition rates are lower even using the best performing deep-learning-based methods under more realistic and challenging conditions such as facial expression, head position and illumination changes, occlusion, low resolution, and noise. To overcome these difficulties, the utilization of soft biometric features has gained more importance. Soft biometric features use anatomical or behavioural properties of a person, providing some information about the identity such as age, gender, ethnicity, hair colour, eye colour, gait, and facial motion. Soft biometric features extracted from facial motion have been used for age estimation, gender estimation as well as face recognition. Although learned more slowly, humans use facial motion while recognizing faces. Facial dynamics are affected less by illumination and appearance changes such as glasses, beards, and makeup. Facial dynamics of emotional expressions have also been shown to be independent of age and stable over time.

In one of the first studies, which use the facial dynamics for face recognition, the frequency of some facial action units, which were detected while the individuals were watching a film or interviewing, were analysed. It was shown that action unit-based dynamic features could be used for face recognition. In another study, person recognition was performed by using adaptive hidden Markov models with temporal dynamics of the face. Later, Matta and Delay proposed a person recognition system based on behavioural information obtained from rigid head displacements and physiological information similar to the classical Eigenface approach.

II. LITERATURE SURVEY

[1] Calin Konstantinov, Andrei Mocanu, Elvira Popescu - Online auctions are marketplaces with dynamic pricing that bring individual buyers and sellers together; the participants bid according to a fixed protocol depending on the specific auction type. Today there are many online auction systems available, accounting for a large part of e-commerce. However, most of them implement only one auction type; in this paper, we introduce a new platform, called eBid Land, which offers the seller the possibility to choose between two auction types: a soft-close version of the English auction and a Dutch auction. eBid Land is also enhanced with a trust and reputation system, as well as a robust recommendation system based on collaborative filtering. The usability, simplicity and intuitiveness, as well as low response times, were the guidelines of the design process. An overview of the eBid Land principles, architecture and functionalities is presented in the paper.

[2] Nazia Majadi, Jarrod Trevathan, Neil Bergmann - Online auctions are now an immensely popular component of the electronic marketplace. Many fraudulent buying/selling behaviours can occur during an auction. While researchers are proposing methods for combating such fraud, it is extremely difficult to test how effective these countermeasures are. This is primarily due to it being unethical to engage in fraudulent behaviour just to test the countermeasures. Furthermore, there is limited commercial auction data available due to the sensitivities of an online auctioneer being willing to admit that fraud has, or is occurring.

[3] Mahmoud Hassaballah, Saleh Aly - Face recognition has received significant attention because of its numerous applications in access control, law enforcement, security, surveillance, Internet communication and computer entertainment. Although significant progress has been made, the state-of-the-art face recognition systems yield satisfactory performance only under the controlled scenarios and they degrade significantly when confronted with the real-world scenarios. The real-world scenarios have unconstrained conditions such as illumination and the pose variations, occlusion and expressions. Thus, there remain plenty of challenges and opportunities ahead. Latterly, some researchers have begun to examine face recognition under unconstrained conditions. Instead of providing a detailed experimental evaluation, which has been already presented in the referenced works, this study serves more as a guide for readers. Thus, the goal of this study is to discuss the significant challenges involved in the adaptation of existing face recognition algorithms to build successful systems that can be employed in the real world.

[4] Antitza Dantcheva, Petros Elia, Arun Ross - Recent research has explored the possibility of extracting ancillary information from primary biometric traits, viz., face, fingerprints, hand geometry and iris. This ancillary information includes personal attributes such as gender, age, ethnicity, hair colour, height, weight, etc. Such attributes are known as soft biometrics and have applications in surveillance and indexing biometric databases. These attributes can be used in a fusion framework to improve the matching accuracy of a primary biometric system (e.g., fusing face with gender information), or can be used to generate qualitative descriptions of an individual (e.g., "young Asian female with dark eyes and brown hair"). The latter is particularly useful in bridging the semantic gap between human and machine descriptions of biometric data.

[5] Antitza Dantcheva, François Brémond - Automated gender estimation has numerous applications including video surveillance, human-computer-interaction, anonymous customized advertisement and image retrieval. Most commonly, the underlying algorithms analyse facial appearance for clues of gender. In this work we propose, a novel method for gender estimation, which exploits dynamic features gleaned from smiles and we proceed to show that (a) facial dynamics incorporate clues for gender dimorphism and (b) that while adult individuals' appearance features are more accurate than dynamic features, for subjects under 18 years old facial dynamics can outperform appearance features. In addition, we fuse the proposed dynamics-based approach with state-of-the-art appearance-based algorithms, predominantly improving appearance-based gender estimation performance.

[6] Edward H.F. De Haan, Russell M. Bauer, Kevin W. Greve³ - In a previous report, Bauer (1984) described the patient LF, who was unable to recognise familiar faces. Despite the inability to verbally identify familiar faces, psychophysiological examination revealed preserved covert processing of facial identity. Subsequent studies have demonstrated covert face recognition using behavioural tasks. Investigations of the patient's PH showed normal face familiarity effects on matching, interference, priming, and learning tasks, while overt recognition was completely absent (De Haan, Young and Newcombe, 1987b).

[7] Hamdi Dibeklioglu, Albert Ali Salah, Theo Gevers - Smiling is an indispensable element of nonverbal social interaction. Besides, the automatic distinction between spontaneous and posed expressions is important for the visual analysis of social signals. Therefore, in this paper, we propose a method to distinguish between spontaneous and posed enjoyment smiles by using the dynamics of the eyelid, cheek, and lip corner movements. The discriminative power of these movements and the effect of different fusion levels are investigated on multiple databases. Our results improve the state-of-the-art.

III. METHODOLOGY

1. The detection of the facial region should be done so that it is robust to the position of the head, occlusion, and illumination change
2. The second step is extracting dynamic features obtained from face videos that can be used for person recognition. To extract the facial dynamic features, we adopt an approach, first, 68 landmark points are detected on the face and 27 facial distances are calculated by using the landmark points, which are expected to move during the smiling action.

IV. CONCLUSION

In our work, we implemented a method for extraction of facial dynamics features from emotional expressive faces (smile videos) for face identification. The dynamic features with appearance-based features, the performance of which have been shown to decrease considerably under adverse conditions. The online auction has relieved the interested bidders from being physically present in auction houses. The auction website provides a variety of products online which gives plenty of choices for the bidders to select the product of their interest. The products are placed rightly under proper categories and subcategories which make it easier to search and locate the desired product. The online auction does not take place face to face which creates anonymous bidders. The auctioneers cannot have a hold on who is participating in the bidding. This can lead to anonymity in identifying the bidders and further in shill bidding. By predicting the end-bid price of the product and keeping it concealed from bidders, bids can be analysed against the predicted price or range of it and if any unpredictable unexpected bid has occurred, then the respective bid can be treated as shilled or fake one and can be ignored.

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