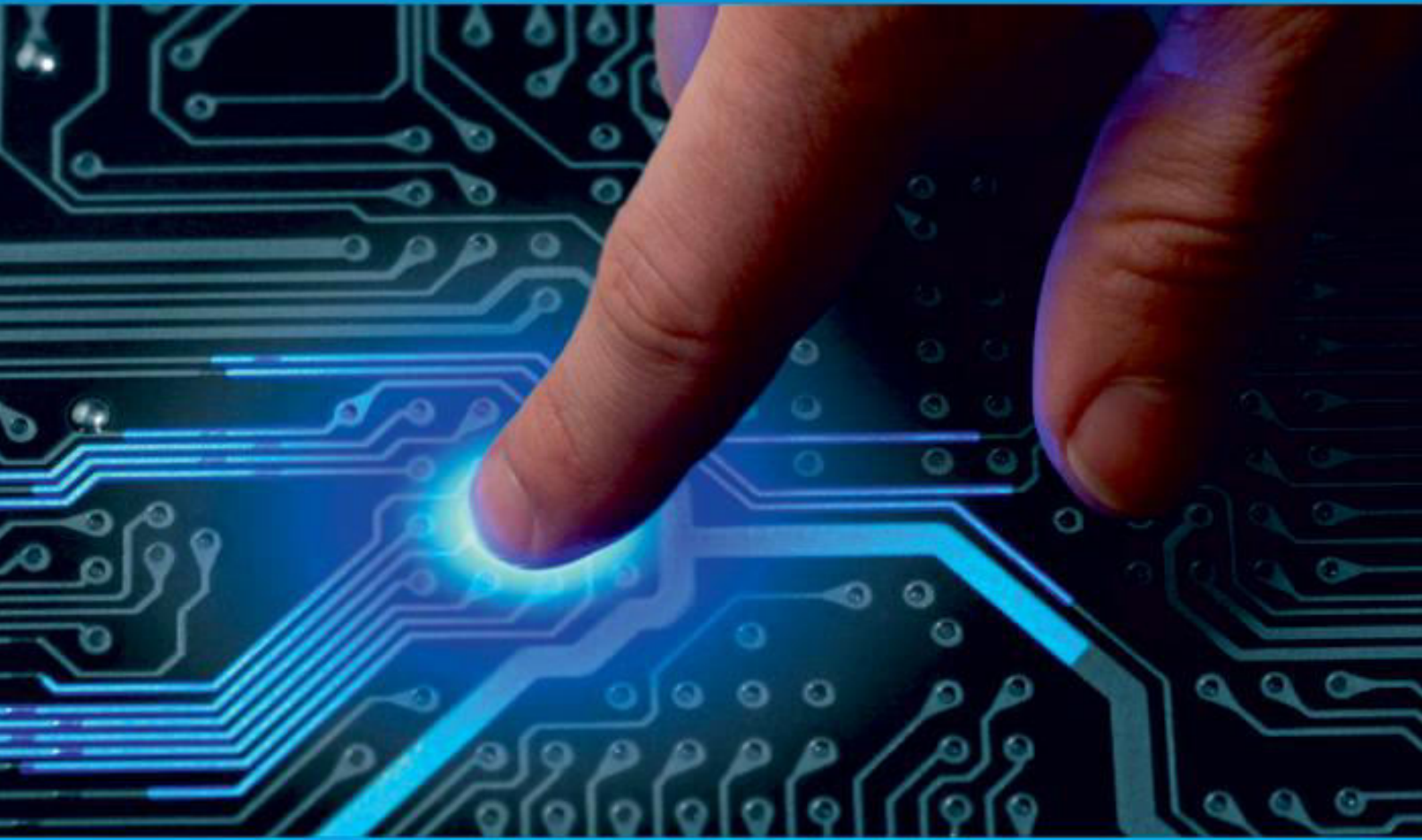




IJIRCCCE

e-ISSN: 2320-9801 | p-ISSN: 2320-9798



INTERNATIONAL JOURNAL OF INNOVATIVE RESEARCH

IN COMPUTER & COMMUNICATION ENGINEERING

Volume 11, Issue 4, April 2023

ISSN INTERNATIONAL
STANDARD
SERIAL
NUMBER
INDIA

Impact Factor: 8.379



9940 572 462



6381 907 438



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Online Voting System based on High Altitude Acute Response Algorithm

Samruddhi Kadam¹, Pratik Gund², Snehal Dimble³, Aryan Mulik⁴, Prof. Ashwini Patil.

Students, Department of Computer Technology, Bharati Vidyapeeth's Jawaharlal Nehru Institute of Technology (Poly),
Pune, Maharashtra, India

Professor, Department of Computer Technology, Bharati Vidyapeeth's Jawaharlal Nehru Institute of Technology
(Poly), Pune, Maharashtra, India

ABSTRACT : This system's major objective is to offer a face-recognition-based online voting platform that will help end fraud in manual voting and earlier incarnations of online voting. The Project aims to provide a safe online voting system that puts user requirements first. The nation's citizens who reside overseas and want to choose their representative can use the online voting system. For voters who are unable to travel to their hometown to cast their ballots, we also deploy location-free voting technology.

In our article, we describe an online voting system that permits the voter, the candidate, and the administrator (who will be in charge of and check all the results) to all participate in online voting. The suggested web portal is secure, includes unique ID generating features that add an extra layer of security (aside from login id and password), and gives admin the authority to check the user information and decide whether or not he is eligible to vote.

It also creates and manages voting details since all users are required to check in with their user name and password and click on candidates to register to vote.

I. INTRODUCTION

1.1. Overview

An online voting system is a software platform that allows groups to securely conduct votes and elections. High-quality online voting systems balance ballot(list) security, accessibility, and the overall requirements of an organization's voting event. India has democratic government. So voting is important. By this people choose their leader for improvement of the area and their overall life.

Election is the act of a party casting ballots to select a candidate for a certain post. Depending on the job, an election may entail a public or private vote. Most positions in the local, state, and federal governments involve some sort of election. Depending on election, in a paper. Voters simply submit their ballots in sealed boxes distributed around a country's electoral circuits. After the election, all of these boxes are unsealed, and votes are manually counted in front of authorised employees.

For verification, the server unit receives this OTP and Face information. The server pulls data from the database and compares it to data that has already been gathered. If the data matches the data that has previously been stored, the participant may cast his ballot. If not, a notification alerting the user that voting is not allowed is displayed on the screen.

Voting is how electorates select their representatives. Under the current voting procedure, the voter must show his or her voter ID card each time they enter the voting booth to cast a ballot. This procedure may take longer if the voter ID card must be compared to the list he possesses, verified as an approved card, and then the voter is permitted to cast his vote. Consequently, to stop these kinds of problems.

Open Issue :

Our existing voting system is good but, there are some problems like people must need to visit his/her actual voting booth to give vote. Hence many people's don't have much time/money. So our system provides a service to give vote at any time (during voting time) & anywhere though many people who don't vote every time can also vote now.

When the election period in India is over, all of these boxes are opened, and votes are physically counted in front of the authorised personnel. Votes may not be correctly counted during this process, or voters may find a means to cast multiple ballots. The voter may occasionally encounter a location issue. For instance, overseas voters who are voting in their hometowns at another location are not taken into consideration because they are unable to get there owing to office employment.

II. RELATED WORK

The review of the literature is regarded as part of the work. It answers concerns about enhancing previously completed work and outlines the advancement of research initiatives in precise detail.

In paper [1] author describes how to design a polling system that is flexible in polling, using fingerprint devices to provide an extra step of authentication, allowing different devices that are available to the voter, not using polling sheets, and generating poll tags. After collecting the voter's facial traits and using those as a reference to vote during an election, author "Ishani Mondal" of the paper "Secure and Hassle Free EVM through deep learning face recognition" employed neural networks. The user may cast a vote if the information fits what is already known.

In paper [2] Blockchain based Voting system in Local Network, numerous scholars have expressed an interest in conducting unique research in the field of block chain technology, which is increasingly becoming necessary for numerous applications. presented a permissioned block chain for an electronic voting system that makes use of smart contracts to guarantee a secure and affordable election. Tabulated the use of blockchain-based solutions in for various levels of voting, including business, community, city, and national. The benefits and difficulties of block chain enabled voting (BEV) were also covered. Additionally, the authorised voters can use BEV. Enabling voting on a block chain creates tamper-proof audit trails, making it the ideal method for casting a vote. analysed the electronic voting systems used in various nations.

In paper [3] The primary e-voting machine development initiatives that we believe are of general relevance and are transferable to various contexts and domains are presented in this paper. As soon as a voter selects a candidate, he or she is asked to affirm their decision once more, with a yes or no response. Voters' votes are given additional protection by receiving a printed acknowledgment of their vote after it has been verified, which results in an increase in the candidate's vote total. The device's primary goal is to eliminate manual vote counting, but its security features are also intended to accomplish this.

In paper [4] This article explores a blockchain-based, entirely decentralised and open online voting system. A decentralised P2P network is what a blockchain is. Blockchain technology aims to do away with centralised control and middlemen from the process. In addition to the financial industry, research is being done to apply blockchain to other sectors, such as the Internet of Things, healthcare, e-voting, logistics, e-commerce, real estate, security, and privacy.

Description : There are two interfaces, user and admin, where user must log in using name, age, Adhar number, etc., and admin must save the information that is provided by user. First, the administrator verifies the user's details to determine whether or not they are entitled to vote before granting them access to the system. Following a successful vote, the administrator barred the specific user until the following election. When a user casts a vote for a certain candidate, the vote total is added to the counter. Using the HAAR classifier and LBPH algorithm, we will move forward with facial recognition once the user has taken 30 photographs and verified that this is only the voter.

III. PROPOSED METHODOLOGY

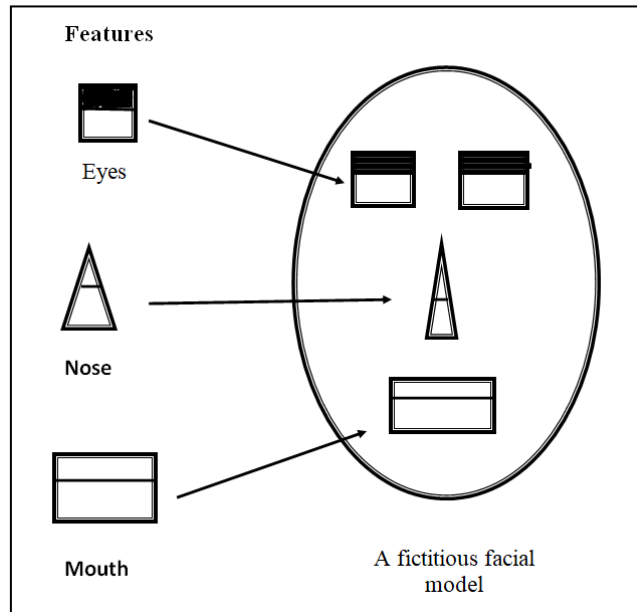


Fig 1.Haar Classifier Algorithm

An algorithm known as the Haar algorithm is included in the proposed system. It is an Object Detection Algorithm that is used to find faces in still photos or moving videos. The method makes use of characteristics for edge or line detection. It detects objects in images regardless of their size, background, or position. The provided figure displays the algorithm.

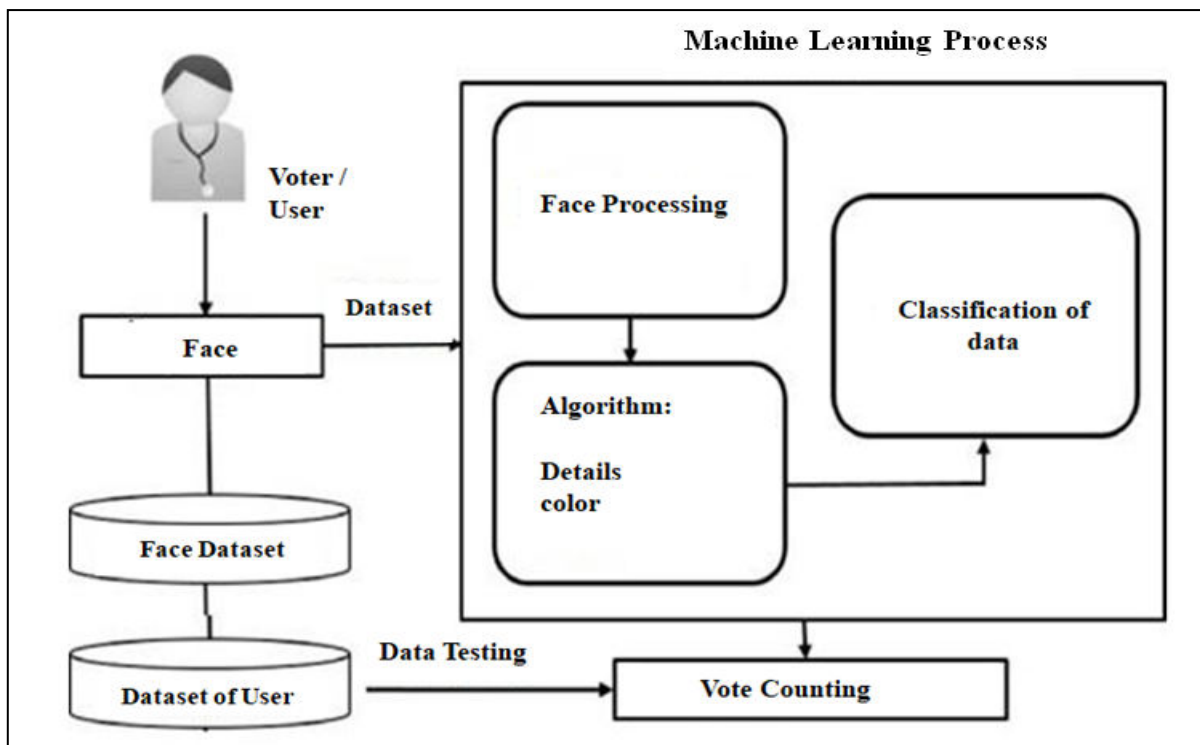


Fig 2.System architecture

In order to utilise the system, a user must first register by entering information such as their Aadhar number, mobile number, city, age, and password. Voter dataset contains this information. When registering, the system uses a webcam to capture the user's input image. For template matching, this image is kept in the face dataset. The user must then log into the system with their Aadhar number and password in order to cast their vote. After then, the user must respond to a security question. If it is properly validated, the user advances to the following page, where they can choose which candidate to vote for. The webcam turns on and verifies the user's face using the provided dataset once the user clicks the vote button.

2.1 Modules

Voter (User):

In this case, the voter is crucial in choosing which candidate to support. The voter is a confirmed user who has been given admin permission to vote.

Machine Learning Method:

The goal of machine learning is to train voter faces to recognise election day and vote for the candidate.

Verification by Face :

The suggested architecture states that there are two methods of voting-time authentication: face recognition and OTP verification.

III. CONCLUSION

Our suggested approach uses face identification and machine learning to enable voters to cast ballots from any location. This approach can prevent vote multicasting and is authentic, safe, and secure. This technique is more dependable because it allows for many voting locations. Additionally, it saves time, people, and workload resources.

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Impact Factor: 8.379



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