

Voting System using Face Recognition

Jayshree S. Hande¹, Mayuri B. Uge², Ankita T. Chimurkar³,

Girish V. Masade⁴, Prof. Vanita Buradkar⁵

Students, Department of Computer Science & Engineering^{1,2,3,4}

Guide, Department of Computer Science and Engineering⁵

Rajiv Gandhi College of Engineering, Research and Technology, Chandrapur, Maharashtra, India

Abstract: This introduction explores the idea of using face recognition technology in college student voting systems. The aim is to make voting more secure, efficient, and user-friendly for students. Face recognition can enhance security by preventing fraud and speed up the voting process. It also ensures accessibility for all students. However, concerns about privacy and fairness need careful consideration. Striking a balance between innovation and protecting students' rights is crucial for successfully implementing face recognition in college voting systems. This approach promises a modern and trustworthy voting experience tailored to the needs of college students

Keywords: Online Voting, Face Recognition, Deep Learning Technique, Convolutional Neural Network

I. INTRODUCTION

Voting is a method for a group, such as a meeting or an electorate, in order to make collective decision or express an opinion usually following discussions, debates or election campaigns in smaller organizations, voting can occur in different ways. The system that we have developed is a web-based voting system that will help you manage your elections easily and securely and make sure that no manipulation of voting is involved. The main goal of this idea proposed is to encourage more students to vote and make the voting process faster, feasible and fair. Traditional voting systems have long been the norm, relying on paper-based ballots or electronic voting machines. However, the emergence of facial recognition technology has paved the way for a more secure, efficient, and user-friendly voting experience. Face recognition technology has gained prominence in recent years, offering a reliable means of identity verification. This cutting-edge technology utilizes advanced algorithms to analyze and authenticate individuals based on their unique facial features. As concerns about election security and fraud continue to be at the forefront of public discourse, implementing face recognition in voting systems presents an opportunity to address these issues and improve the overall integrity of the electoral process.

II. OBJECTIVE

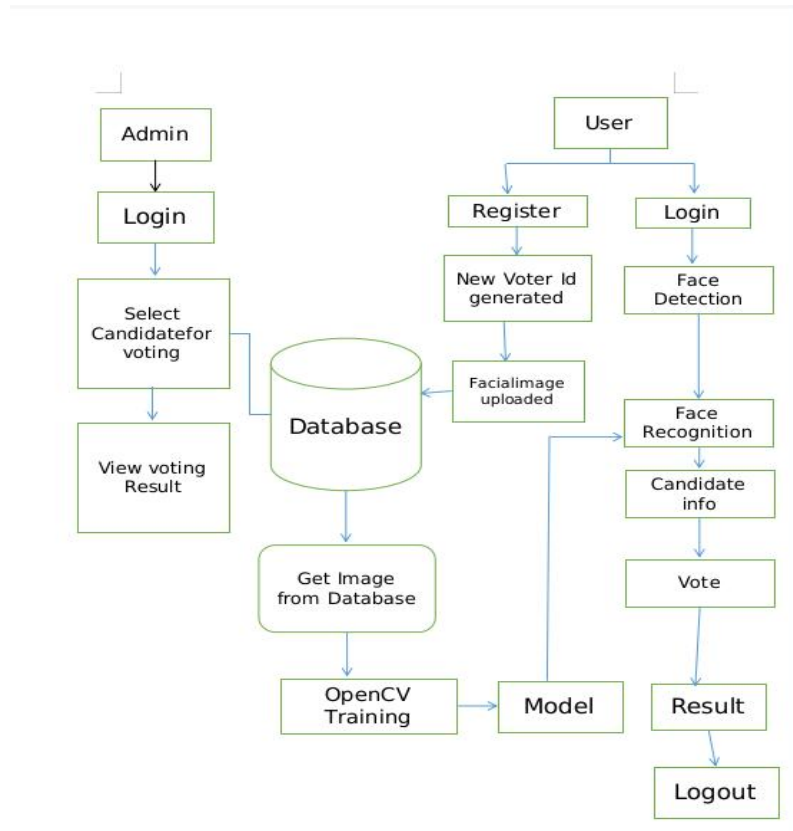
The project's primary goal is to find a way to increase voter participation in local, state, and national elections. As a result, we're working to create a voting system that allows people to cast their ballots from a distance, with their previously recorded picture face serving as proof of identity. The goal of this research is to optimise the embedded system's run time for facial recognition. Various methods and strategies for feature extraction, normalisation, selection, and classification

III. LITERATURE REVIEW

SrNo	Author	Title	International general conference	Year	Summary
1.	Mrs. Sowmya D	"smart voting system through face recognition using facenet algorithm"	International Journal of Advanced Research in Computer and Communication Engineering (IJARCCE)	2023	As technology improves, there is a chance to create a smarter and more efficient voting system. Smart voting system using face recognition technology is one among them. The use of face recognition

					technology involving process increase the accuracy and security.
2.	A.S.Andekar, S.M.Manolkar, K.M.Burte, S.D.Mane	"E-voting using Facial Recognition based on Machine Learning"	International Journal of Advanced Research in Computer and Communication Engineering (IJARCCE)	2022	where the people can vote by online mode instead of the Manual voting. Face Recognition can be done through a person can vote in safest way without any illegal issues.
3.	Swapnil Singh, Krunal Patil, Shaik Aftab	"Smart Voting System Using Face Recognition"	International Journal of Advanced Research in Computer and Communication Engineering (IJARCCE)	2022	"Smart Online Voting System through Facial Recognition Using Haar Cascade Algorithm" compare the angular pixel of the each faces and detecting the edge nodes in pixels to recognize the features of the face
4.	Miss. Chand ar Nikita D	"Online Smart Voting System Using Image Processing and CNN"	International Peer Reviewed & Refereed Journals, Open Access Journal (IJS DR)	2022	The designed system is also less time-consuming, inexpensive and a hassle-free way of conducting the election process, making smart voting a better way to vote.
5.	Chandra Keerthi Pothina	"Smart Voting System Using Facial Detection"	(IEEE)	2020	The designed system is also less time-consuming, inexpensive and a hassle-free way of conducting the election process, making Smart voting a better way to vote
6.	Abbas Behrainwal	"Smart Voting System Using Facial Recognition"	(IJRASET)	2022	Unlike conventional stereo matching approaches coordinating methodologies, the presumption like no earlier information about the relative camera positions and directions.
7.	Heena Kousar	"Facial Recognition Based Smart Voting System"	International Research Journal of Engineering and Technology (IRJET)	2023	The proposed system uses facial recognition algorithms to match the voter's face with the pre-registered images in the database.
8.	Singh, R.K., Tiwari	"voting system using face recognition."	International Research Journal of Engineering and Technology (IRJET)	2021	This paper proposes a biometric-based secure electronic voting system using face recognition. The system uses a combination of facial recognition algorithms
9.	K.C.Arun I	Global Conference on Computing & Media Technology	International Research Journal of Engineering and Technology (IRJET)	2020	Face recognition and getting authorize by using the block chain technology and OTP verification method enable secured voting in online.
10.	Deepak N R	Journal of Advances in Computational Intelligence Theory	(IEEE)	2021	Using Block chain technology to store the dataset and maintain security and illegal actions at the voting area

IV. ARCHITECTURE OF PROJECT



Description

- **Admin:** - Admin log in using unique password.
- **Select candidate for voting:-** Add ,edit and delete candidates.
- **Database:** - we create our own database to store user details
- **User:** - Users can create new accounts by providing their email address, username and password.
- **Voting Session:** - After adding the candidate user can see the starting session in this session user can vote the candidates.
- **Candidates voting:** - This is the voting panel where user can vote the candidate User can vote the candidates by clicking on vote button.
- **Live result voting:** - In this result session user can see the starting session and he will easily see the result of the voting.
- **Result Dashboard:** - In this dashboard user can see the winner candidates also user see his live voting result whose candidate user choose.
- **Logout:** - User logout itself

V. CONCLUSION

In conclusion, the integration of face recognition technology into college voting systems represents a significant stride towards modernizing and refining the electoral experience for students. The implementation of this technology, particularly with the use of Convolutional Neural Network (CNN) algorithms, offers a range of advantages, including heightened security, improved efficiency, and enhanced accessibility.

The adoption of face recognition in college voting systems brings about a streamlined and quicker authentication process, ensuring that only eligible students can participate in the electoral process. This not only reduces the likelihood of fraudulent activities but also contributes to a more efficient and user-friendly voting experience on college campuses. However, it is crucial to acknowledge and address concerns related to privacy and ethical considerations. Striking the right balance between technological innovation and safeguarding individual rights is imperative to ensure widespread acceptance and trust in the college voting system.

Overall, the implementation of face recognition technology in college voting systems holds great promise for creating a more secure, efficient, and inclusive electoral environment tailored to the unique needs of the student community. As advancements in technology continue, it is essential to remain vigilant in addressing ethical considerations to build a voting system that is not only technologically sophisticated but also respects the privacy and values of the college community.

REFERENCES

- [1] Mrs.SowmyaD smart voting systemthrough facerecognition using facenet algorithm.InternationalJournal of Advanced Research in Computer and Communication Engineering (IJARCCE) 2023
- [2] S..Andekar, S.M.Manolkar, K.M.Burte, S.D.Mane “E-votingusing Facial Recognition based on Machine Learning”. InternationalJournal of Advanced Research in Computer and Communication Engineering (IJARCCE) 2022
- [3] Swapnil Singh, KrunalPatil ,Shaik Aftab “SmartVoting System Using Face Recognition” InternationalJournal of Advanced Research in Computer and Communication Engineering (IJARCCE) 2022
- [4] Miss. Chand ar Nikita D “Online Smart VotingSystem Using Image Processingand CNN” InternationalPeer Reviewed&RefereedJournals, Open Access Journal (IJS DR) 2022
- [5] ChandraKeerthi Pothina “SmartVoting System Using Facial Detection” (IEEE) 2020
- [6] Abbas Behrainwal “SmartVoting System UsingFacial Recognition” (IJRASET) 2022
- [7] Heena Kousar “FacialRecognition BasedSmartVoting System” International Research Journal of Engineering and Technology (IRJET) 2023
- [8] Singh,R.K., Tiwari “votingsystemusing face recognition.” International Research Journal of Engineering and Technology (IRJET) 2021
- [9] CArun1”GlobalConferenceon Computing & Media Technology” International Research Journal of Engineering and Technology (IRJET) 2020
- [10] Deepak N R “Journal of Advances in Computational IntelligenceTheory” (IEEE) 2021