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# Secure Voting Mechanism on Blockchain Technology Using 5G Network

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**ABSTRACT:** The system designed as a Windows application like online Voting system, for citizens who are above 18 years of age to vote through online. Using these system citizens of India can vote through online without visiting polling booth. A centralized database is maintained by election commission of India where citizens information is maintained whenever citizen is using online voting system his/her information is authenticated with the data present in database if user is not in the list he cannot use online voting system. Users are provided with an online registration form before voting user should fill online form and submit details these details are compared with details in database and if they match then user is provided with username and password using this information user can login and vote. If conditions are not correct entry will be cancelled. This project is designed to avoid this problem. The person who is outside of the hometown he can cast his vote through finger print voting system. First the person has to enter his Aadhar card ID number then give the fingerprint. These details are comparing with database. Once the details are matched user can cast his vote to desired person. This method is to avoid the forgery voting in online voting system. The vote will be cannot again vote for that particular ID number.

## I. INTRODUCTION

In this project the various sub-fields of AI research are centered around particular goals and the use of particular tools. The traditional goals of AI research include reasoning, knowledge representation, planning, learning, natural language processing, perception, and the ability to move and manipulate objects.[c] General intelligence (the ability to solve an arbitrary problem) is among the field's long-term goals.[12] To solve these problems, AI researchers have adapted and integrated a wide range of problem-solving techniques -- including search and mathematical optimization, formal logic, artificial neural networks, and methods based on statistics, probability and economics. AI also draws upon computer science, psychology, linguistics, philosophy, and many other fields.

## II. LITERATURE SURVEY

Deep learning is a machine learning technique that teaches computers to do what comes naturally to humans, to learn by example. Innumerable developers are leveraging the latest deep learning innovative technologies to take their business to the new high. There are large numbers of fields of Artificial Intelligence technology like autonomous vehicles, computer vision, automatic text generation, and the like, where the scope and use of deep learning are increasing. Take an example of Self Driving feature in cars like Tesla(Autopilot), where Deep learning is a key technology behind enabling them to recognize a stop sign or to distinguish a pedestrian from a lamppost.

AI has the ability to execute the same kind of work over and over again without breaking a sweat. To understand this feature better, let's take the example of Siri, a voice-enabled assistant created by Apple Inc. It can handle so many commands in a single day! From asking to take up notes for a brief, to rescheduling the calendar for a meeting, to guiding us through the streets with navigation, the assistant has it all covered. Earlier, all of these activities had to be done manually which used to take up a lot of time and effort. The automation would not only lead to increased efficiencies but also result in lower overhead costs and in some cases a safer work environment.

With every passing day, the data that we are all producing is growing exponentially, which is where AI steps in. Instead of manually feeding this data, AI-enabled not just gathers this data but also analyzes it with the help of its previous experiences. Data ingestion is that the transportation of knowledge from assorted sources to a data-storage medium where it are often accessed, used, and analyzed by a corporation. AI, with the help of neural networks, analyzes a large amount of such data and helps in providing a logical inference out of it.

### III. EXISTING SYSTEM

In India first election using electronic voting is scheduled to hold from April 20 to May 10, 2004. India is the world's largest democracy with a population of more than 1 billion, India has an electorate of more than 668 million and covers 543 parliamentary constituencies and will require more than one million electronic voting machines (EVMs). The legal approval in 1989 to allow the use of EVMs, they have been used in many state elections but never used an entire general election. Electronic Voting Machines prepared by Electronics Corp of India and Bharat Electronics. In India, Electronic Voting Machines used for voting. Electronic Voting means any system in which voter casts his/her votes using an electronic system, rather than paper vote. The EVM comes in a reusable carry pack and can operate on a battery power source in remote areas. According to Election Commission officials, each EVM can record five votes minute or nearly 3,000 votes in a polling day. Electronic Voting Machine is used to record votes in place of paper and boxes. This is a machine without any network connectivity, and nobody can interfere with programming, and no one can manipulate its results. It contains microchip in the form of one-time programmable basis. Once the program is burnt into microchip no one can altered.

#### 3.1 Disadvantages

- Data Privacy and Security Concerns.
- Initial Costs and Resources.
- Lack of Interpretability.

### IV. PROPOSED SYSTEM

This proposed system overcomes all drawbacks in the manual voting. It is beneficial to both voter and election commission. This proposed system is the user-friendly application which is efficient to the voter. This system has the facility to reduce the waiting time of the voter. This system provides the facility to the election commission to verify the voter details while voting. In this system fingerprint is used to identify the user. This method is to avoid the forgery voting system. This will helps to the election commission to conduct election. This system will helps the election commission board easily to conduct election and can be reduce election expense vote counting and the result declaration. The important benefit of the system is the voter can easily verify the candidate details and their booth details. the system also provide high level security to avoid illegal polling.

#### 4.1 Algorithm

Deep learning is a subset of machine learning and is solely concerned with complex algorithms. It has helped develop impressive features like automatic parking in cars, image analytics in healthcare, virtual assistance, and many more. It has also expanded its applications in visual recognition. This article will look at how deep learning is used in face detection and recognition systems. System face detection means locating and attending to faces in a visual scene. But in deep learning, it consists of detecting human faces by identifying the features of a human face from images or video streams

**1.Face detection:** This is the basic step, where the face is detected and bounding boxes are drawn around it.

**2.Face alignment:** The detected face is normalized to speed up training. Experiments show that alignment alone increases face recognition accuracy by almost 1%.

**3. Feature extraction:** Local features are extracted from the image with the help of algorithms.

**4. Face recognition:** This is the last stage and involves matching the input face with images present in the dataset to identify who it belongs to.

#### 4.2 Modules:

##### Admin Initialization

This module is handled by administrator alone. Admin have a unique login and password. After that admin have to login and then only he can access the entire process.

##### View/Add/Remove Voter details (Fingerprint)

Admin can view/add/remove the voter's details. In that stage admin only have rights to do all the modification in that database.

##### Maintain Voters Details

In these modules admin maintain the voters details. Because every voter's details saved into the centralized server admin maintain the details. Hackers may hack the voters details or modify their details so admin secure and maintain the details.

##### Voting Count

This modules will be used after polling by voters. This modules do only calculation process. Every voters submit their vote to some candidate, that count will add into our database and admin can only access it.

##### Candidate Module

##### Candidate enrollment

The candidate should log on to the online voting system and enroll his/her appropriate details that has been required by the admin.

The candidates can upload their photo as well as the symbol or logo certificates and as well as the nomination certificates.

##### User Modules

##### User Initialization

Every user have to login into our website otherwise user have to register their details which includes their finger print. After completing registration user get a unique id and password after that only user can login along with their finger print.

##### Save/ Edit Voters Details

After login voters enter into profile page, in this module voter enter their voter id along with their finger print. It will check with the database and find the user profile and display it. After conformation voter have to vote along with their finger print.

##### Voting

Electronic voting is a voting system that uses electronic means of casting and counting votes It actual working of overall voting process. Workflow of voting system is as follows: Each voter has an unique ID number. For voting purpose The voter goes to a valve and receive a token, using the ID number. Each ID number is only grant to earn one token. Voter verification can be done by fingerprint recognition. Candidates list will displayed on web panel. The voter can vote online by dispatching the token to the account of the candidate they select. That voter cannot vote again, but the voter can examine the blockchain to verify that the vote was correctly recorded, and also see the total votes for each candidate at anytime. Live result will displayed at admin panel. Each vote is verified by the server, if valid then it digitally signed by the server for valid transaction. Invalid truncation where drops after verification.

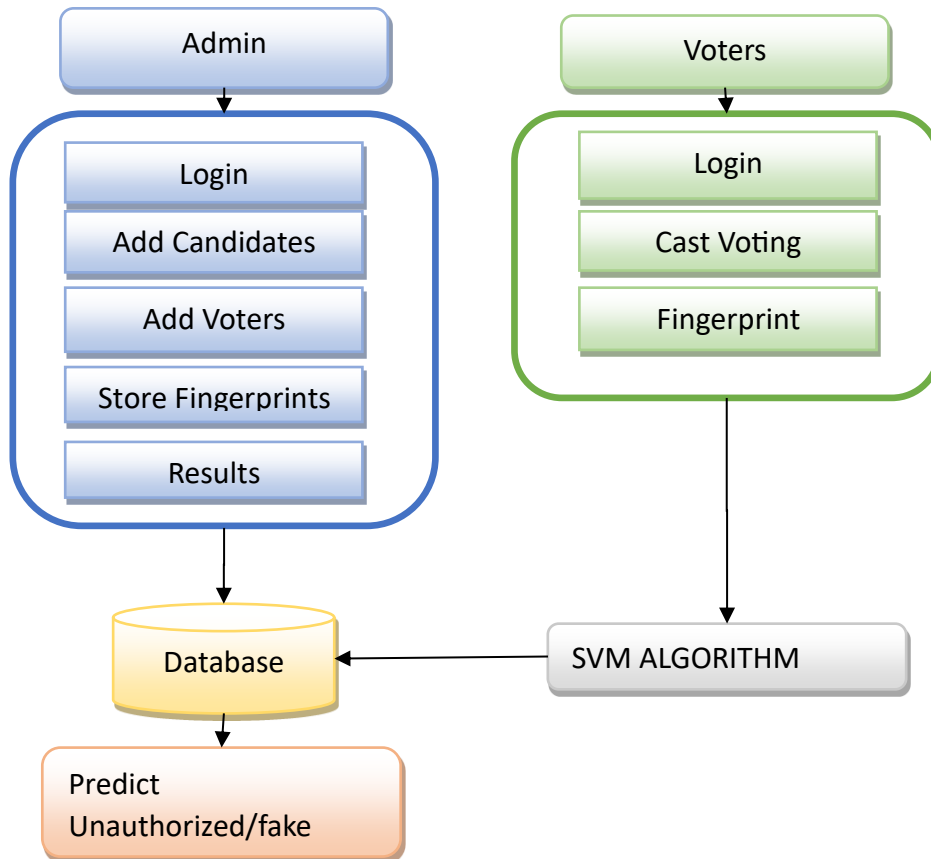
##### Fingerprint Verification

Fingerprint verification is a process of confirming that a user is who they claim to be. It is one of the well known biometrics solution for authentication on computerized system. It is also known as fingerprint matching. In our system fingerprint verification used to validate voters identity.

##### Advantages

- This system provides the facility to the election commission to verify the voter details while Voting.
- In this system finger print is used to identify the user. This method is to avoid the forgery voting system
- This system saves time and avoid multiple voters

### V. DATA FLOW DIAGRAM



### VI. CONCLUSION

The main success of this system is provides a solution for the voter and the election commission to maintain their time efficiently. This project removes the traditional method for waiting in the Queue and verifies the card and then voting using finger prints. This software package can be operational in menu driven way which will be helpful to the voter to verify the candidate before voting. Election commission can view all the voting details of voter can verify the voter and their voting detail.

The main purpose of the project is to avoid the critical process of maintain Queue in the election time and reduce the time consuming while the vote counting and the result producing. The voter can easily verify their booth detail before the election time and easily put their vote without any unwanted procedures. This system has an efficient facility to getting alert the user about their voting candidate. This system mainly used to the post voting user to get the information about the candidates.

### VII. FUTURE WORK

In future we tend to add additional functionality of image validation for the security constraint and uniqueness which will provide very strong security for the confidential information for voting.

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