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A Project Report on

SMART VOTING SYSTEM USING FACE RECOGNITION

Under the Guidance of

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1. Introduction

In India, currently we are having two kinds of voting mechanisms first the secret Ballet paper and the second one is Electronic Voting Machines (EVM), but the process of voting has some demerits and drawbacks, that is, why is the present ongoing system not so much safe & secure. In our chosen study of the system, we are proposing three levels of verification which is very effective in reducing the false voting scenarios. The first includes the unique id generate at the of registration which would be given to the voter. After which, in the second level of security when given id to the Election Commission Officer where it would be cross-checked by the officer and now the new tier of verification through which the voter needs to go, will greatly enhance the security, here we would be matching the current facial features of voter with the one present in database, this would reduce the chances of false casting of voting and make the system safer and accurate.we will discuss the one algorithm used in the field of facial recognition. We have also measured the accuracy of this algorithm by practically implementing it and evaluating it on the test set.

2. Problem definition

In the existing voting system there is lot of money wastage and high risk with high maintenance problem. Lot of face recognition models are proposed to detect face and vote. But due to high training dataset requirement it consumes lot of time to train and also consumes huge memory. Hence high efficient and low dataset usage algorithm is necessary in training and detection of face for voting

3. Objectives of the project

There are three levels of verification which were used for the voters in our proposing system.

- The first is UID verification.
- Second is for the voter card number verification.
- Third level of verification includes the use of various algorithms for facial recognition.

4. Methodology

List of Modules:

1. Voter Registration Module and Login Module.
2. Candidate registration module
3. Face Verification and data validation Module
4. Voting module.
5. Result module.

List of Algorithms:

1. Haar cascade and RBF.

5. Requirements of the project

Hardware Configuration

Processor - 1.1 G Hz

RAM - 4 GB (min)

Hard Disk - 20 GB

Software Configuration

Operating System : Windows 7 and Above

Technology : Python

Front End : Tkinter/pyqt5

IDE : Python 2.7 or higher

Database : MySQL

5.Advantages of the project

- **Fast and high accurate face recognition with lesser dataset**
- False voters can be easily identified.

- The facial authentication technique is very much useful in identifying the fraud voters, so we can avoid the votes during election commission.
- The voters can cast their voting from anywhere by login to our proposed smart voting system through internet.
- Smart voting system provides updated result at each and every minute.
- It requires less man power and resources.

6. Bibliography

[1] For textbooks - A.V. Oppenheim and R.W. Schafer, Digital Signal Processing, Englewood, N.J., Prentice Hall, 3 Edition, 1975.

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