



INDRAPRASTHA INSTITUTE of  
INFORMATION TECHNOLOGY DELHI



## **#IVoted to #IGotPwned**

Studying Voter Privacy Leaks in Indian Lok Sabha Elections on  
Twitter

# Voter Privacy Leaks and Linking

The image shows a tweet on the left and a voter privacy leak document on the right. The tweet is from a user named NaXXXa XXXe (@naXXXe) and contains the text: "@INCIndia #AbHogaNyay @RahulGandhi #ChowkidarChorHai #IndiaElections2019 Voted. It's a right we take so much for granted... Have lived in countries where people lining up to vote are blown up, those who have voted have had their fingers chopped... Let's value what we have." Below the text is a photo of a wall with a painting of eyes and other decorations. The voter privacy leak document on the right contains the following information: "LLZC [redacted] 940", "Name : NA [redacted] A [redacted] E", "Husband's Name : M [redacted] [redacted] E", "House Number : [redacted]", "Age : [redacted] 9 Sex : FEMALE", and a box labeled "Photo is Available". Below this is a table titled "2 . DETAILS OF PART AND POLLING AREA" with columns for "No. and name of sections in the part" and "Main Town or Village", "Ward No.", "Police Station", "Tehsil", "District", and "Pin". The table contains the following data: "1. BLOCK: [redacted] ASH-1", "2. TOME: [redacted]", "999. Overseas Elector", "Main Town or Village : Delhi", "Ward No. : 868", "Police Station : [redacted]", "Tehsil : [redacted]", "District : [redacted]", "Pin : [redacted]".

NaXXXa XXXe  
@naXXXe

@INCIndia  
#AbHogaNyay  
@RahulGandhi  
#ChowkidarChorHai  
#IndiaElections2019

Voted. It's a right we take so much for granted...

Have lived in countries where people lining up to vote are blown up, those who have voted have had their fingers chopped...

Let's value what we have.

LLZC [redacted] 940

Name : NA [redacted] A [redacted] E  
Husband's Name : M [redacted] [redacted] E  
House Number : [redacted]  
Age : [redacted] 9 Sex : FEMALE

Photo is Available

2 . DETAILS OF PART AND POLLING AREA

No. and name of sections in the part	Main Town or Village
1. BLOCK: [redacted] ASH-1	: Delhi
2. TOME: [redacted]	: 868
999. Overseas Elector	: [redacted]
	: [redacted]
	: [redacted]
	: [redacted]

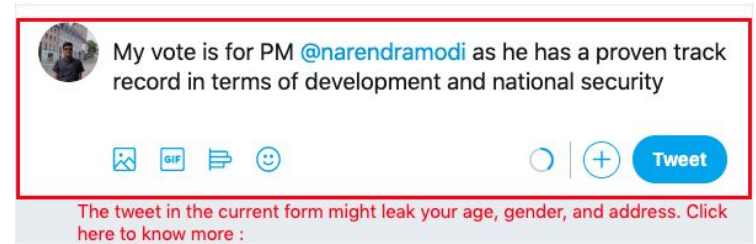
A Twitter user NaXXXa XXXe tweeted a VPL. The Twitter display name is successfully linked to their entry in the electoral rolls\*.

# Detection and Classification

## Classification

Classification Model	Accuracy	Precision	Recall	F - measure
Naive Bayes + TFIDF	0.8	0.82	0.8	0.8
Naive Bayes + Count Vectors	0.81	0.83	0.81	0.81
Random Forest + TFIDF	0.9	0.91	0.91	0.91
Random Forest + Count Vectors	0.93	0.94	0.94	0.94

## Nudge



A screenshot of a tweet interface. The tweet text is "My vote is for PM @narendramodi as he has a proven track record in terms of development and national security". Below the text are icons for image, GIF, list, and emoji. To the right are a circular refresh icon, a plus icon, and a blue "Tweet" button. A red rectangular box highlights the tweet content. Below the box, a red warning message reads: "The tweet in the current form might leak your age, gender, and address. Click here to know more :".



A screenshot of a tweet interface. The tweet text is "The future of our country lies in our hand so get up, go out and cast your vote. It's my #FirstVote today so happy to have my contribution in building a new #India !". Below the text are icons for image, GIF, list, and emoji. To the right are a circular refresh icon, a plus icon, and a blue "Tweet" button. A green rectangular box highlights the tweet content. Below the box, a green warning message reads: "The tweet in the current form might leak your age, gender, and address. Click here to know more :".