Privacy and Security in Online Social Media

Course on NPTEL

NOC21-CS28

Week 5.1

Ponnurangam Kumaraguru (“PK”)
Full Professor
ACM Distinguished Speaker
fb/ponnurangam.kumaraguru, @ponguru

Topics that we will cover

- Overview of OSM
- Linux / Python / Twitter API / Mongo DB / MySQL [Hands-on]
- Trust & Credibility
- **Privacy**
- Social Network Analysis, NLTK [Hands-on]
- e-crime
- Plotly / Highcharts / Geo-location analysis [Hands-on]
- Policing
- Identity resolution
- What next – Deep learning, machine learning, NLP, Image analysis

Experiments

- Online – Online
- Offline – Online
- Predicted SSN from public data

We Know Where You Live: Privacy Characterization of Foursquare Behavior

Tatiana Pontes*, Marisa Vasconcelos*, Jussara Almeida*, Ponnurangam Kumaraguru†, Virgilio Almeida*

*Universidade Federal de Minas Gerais, Brazil
†Indraprastha Institute of Information Technology, India
*{tpontes,marisav,jussara,virgilio}@dcc.ufmg.br
†pk@iiitd.ac.in

Beware of What You Share: Inferring Home Location in Social Networks

Tatiana Pontes*, Gabriel Magno*, Marisa Vasconcelos*, Aditi Gupta†,
Jussara Almeida*, Ponnurangam Kumaraguru†, Virgilio Almeida*

*Universidade Federal de Minas Gerais, Brazil
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†Indraprastha Institute of Information Technology, India
{aditig,pk}@iiitd.ac.in

Interested?

- WWW http://www.www2017.com.au/
- ICWSM http://icwsm.org/2017/
- COSN http://cosn.acm.org/
- CSCW https://cscw.acm.org/2017/
- …

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How you use OSM?

- How many friends and followers do you have on Facebook and Twitter?
- How many of you are friends with police on your social network?
- How often you use social networks to
  - Post comments
  - Interact with police

Ever wondered What makes police to use social media?

The Power: Social Media

Do you remember this picture?

#myNYPD

PSA 8
NYPD NEWS
@NYPDnews
Do you have a photo w/ a
#myNYPD. It may be feat
11:25 PM - 22 Apr 2014
428 RETWEETS 226 FAVORITES

Michael Krieger
@LibertyBlitz
Follow
This is what the top pictures on #myNYPD hashtag look like at the moment:
2:40 AM - 23 Apr 2014
117 RETWEETS 38 FAVORITES

Follow
oto w/ a member of
PD

#myNYPD to #myLAPD

#MyNYPD Twitter Fail Spawns #MyLAPD, Showing Police Hard At Work Beating Folks Up

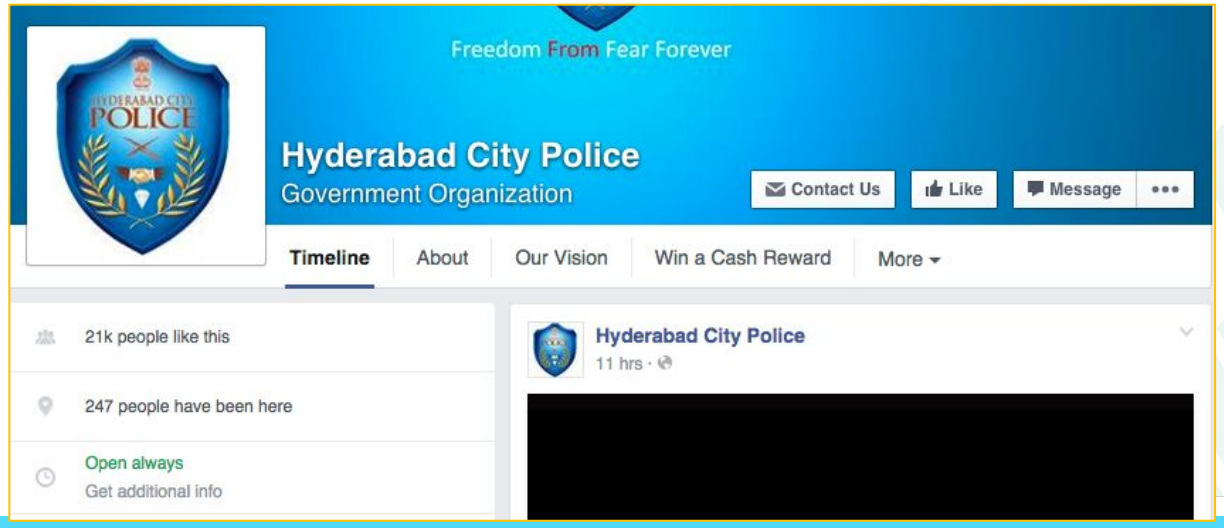
Gaga Cheat
@MissStef0318
Follow

#MyLAPD well, it's @HawthornePD in L.A. county so it counts. Watch your dogs! Your police force working for you.

7:13 AM - 23 Apr 2014

132 RETWEETS 46 FAVORITES

Multiple Police Dept. on OSN



BLR City Police on OSN

TWEETS 8,187 | FOLLOWING 46 | FOLLOWERS 335K | FAVORITES 848

M N Reddi, IPS
@CPBlr

M N Reddi, IPS, YOUR Commissioner of Police, Bengaluru City. Trying to make Bengaluru Police,YOUR OWN POLICE!

Bengaluru City - 560001

bcp.gov.in/home.aspx

Tweets | Tweets & replies | Photos & videos

Pinned Tweet

M N Reddi, IPS @CPBlr · Oct 28

My new bio for @CPBlr : " M N Reddi, IPS, Commissioner of Police, Bangalore City. Trying to make Bangalore Police YOUR

TWEETS 10.7K | FOLLOWING 60 | FOLLOWERS 688K | LIKES 960

Following

N S Megharikh, IPS
@CPBlr

N S Megharikh, IPS, Commissioner of Police.

Bengaluru City - 560001
bcp.gov.in/home.aspx
Joined July 2014

Tweet to N S Megharikh, IPS

Tweets | Tweets & replies | Media

N S Megharikh, IPS @CPBlr · 23h

एक गरीब लड़के को एक चिराग मिला

उसने उठाया और रगड़ दिया
ज़ोरदार धमाका हुआ
खुद मर गया,

"अलादीन का ज़माना गया,

लावारीस वस्तुओं से दूर रहो

Who to follow · Refresh · View all

Shah Rukh Khan @iamsrk
Follow

Aamir Khan @aamir_khan
Follow

Shashi Tharoor @Shashi...
Follow

Find friends

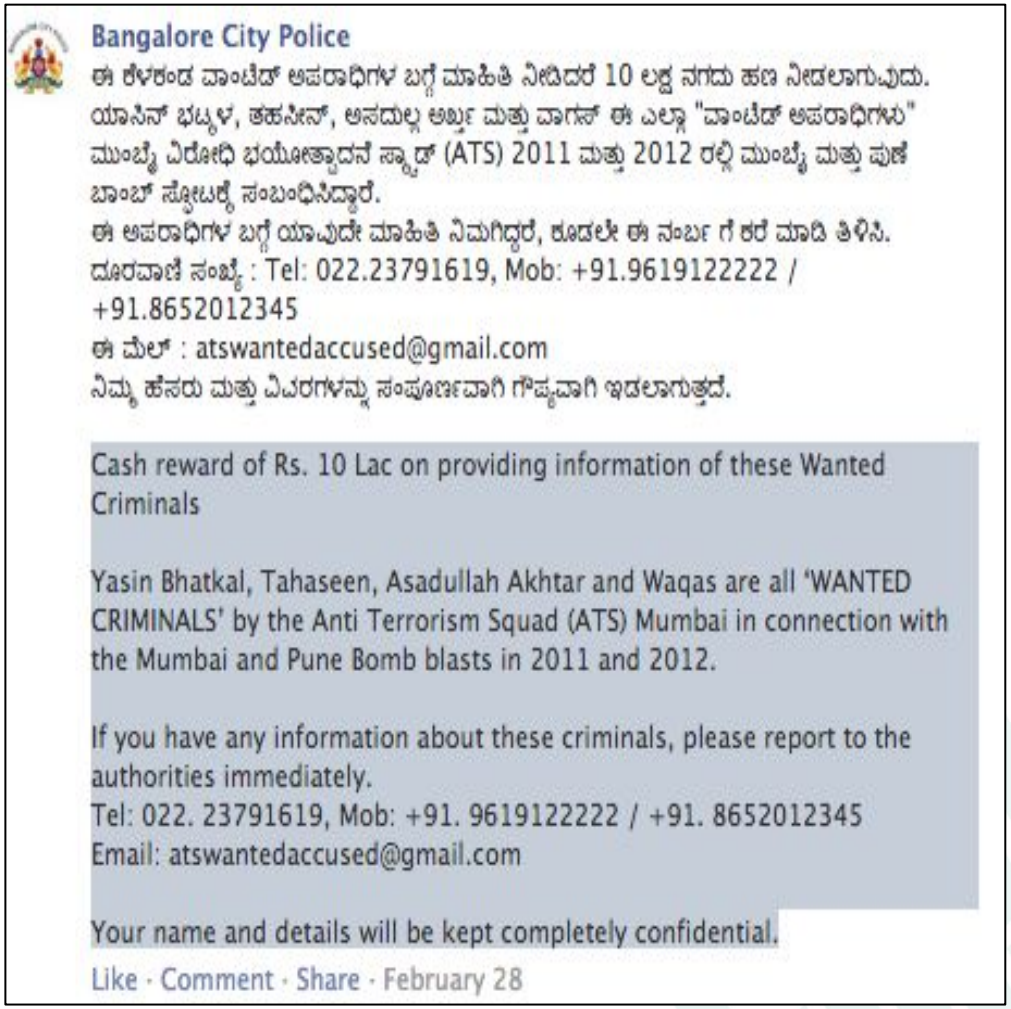
Popular departments

Police Departments	Likes	Followers	Post	Joined
USA				
New York	383,372	147,000	No	2012
Boston	137,403	312,000	No	2010
Baltimore	36,530	70,400	Yes	2012
Metropolitan, Columbia	16,071	56,900	Yes	2008
Seattle	12,912	103,000	No	2010
UK				
Greater Manchester*	98,193	205,000	Yes	2011
West Midlands*	86,904	115,000	No	2008
Essex*	66,461	85,300	No	2011
London*	46,889	267,000	No	2011
Northern Ireland*	26,173	71,300	No	2009

Popular departments – India

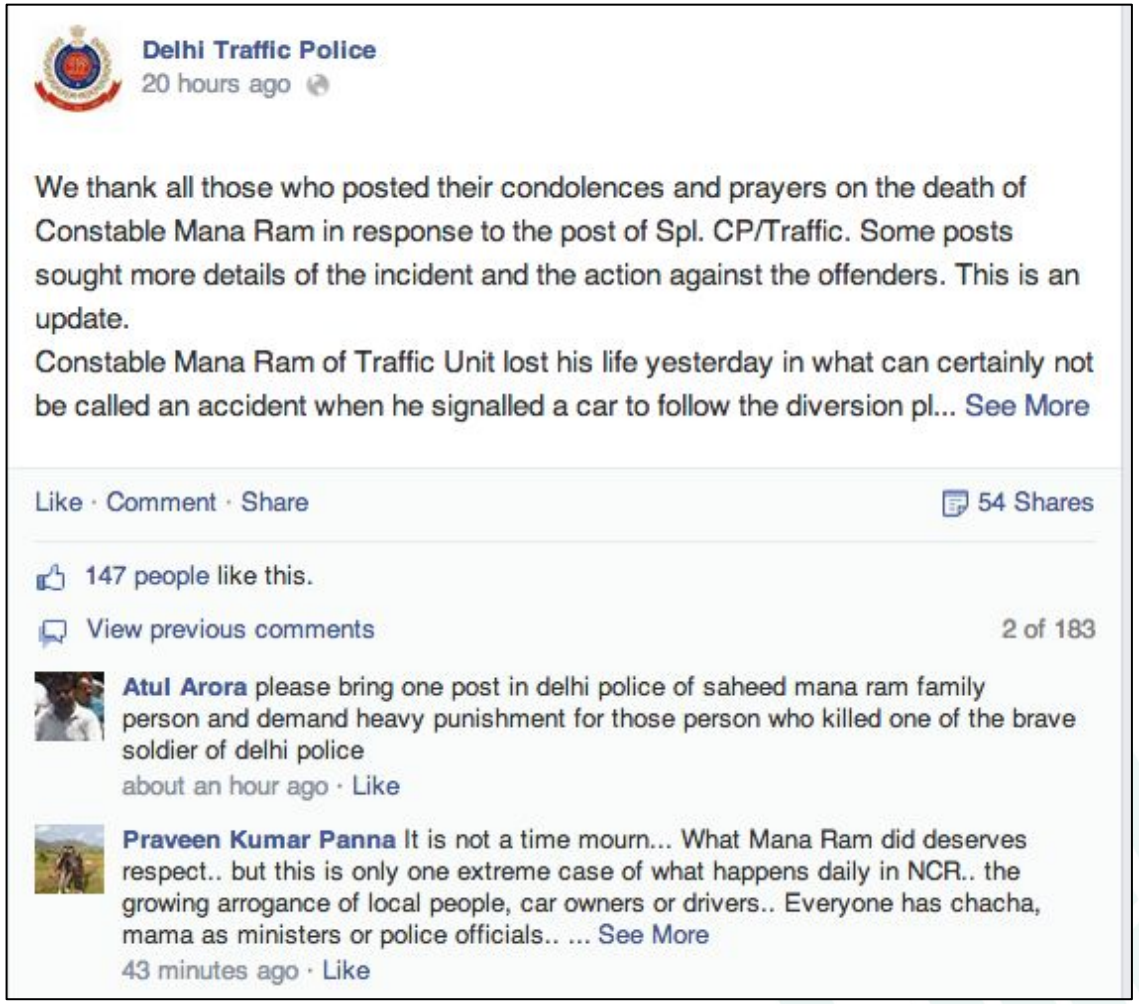
Police Departments	Likes	Followers	Post	Joined
Bangalore Traffic	2,49,968	8,045	Yes	2012
Delhi Traffic	2,02,858	2,59,000	Yes	2011
Hyderabad Traffic	1,88,480	1,361	Yes	2012
Bangalore City	1,05,463	12,100	Yes	2011
Kolkata Traffic	63,789	-	Yes	2010
Chennai	50,979	1,108	Yes	2013
Gurgaon	43,901	718	Yes	2013
Gurgaon Traffic	24,475	-	Yes	2010
Hyderabad	13,602	537	Yes	2014
UP Police PR	8,486	4,585	Yes	2013
Guwahati Police	3,255	295	Yes	2011

Bangalore Police



https://www.facebook.com/blrcitypolice

Delhi Police



https://www.facebook.com/pages/Delhi-Traffic-Police/117817371573308

Delhi fake account?

https://www.facebook.com/delhitraffic.polize?fref=ts

UP Police

U.P. Police
FaceBook Page of U.P. PolicePR
थाने, सर्किल, जिले, रेंज और ज़ोन से जब आसानी से आपको न मिले पुलिस सहायता और जानकारी, तब इस फेसबुक पेज पर आईये.अपनी बात इस सार्वजनिक फोरम से आला अफसरों तक पहुंचाइए. सुझाव भी दीजिये, उपयोगी सुरक्षा टिप्स भी दीजिये तथा पुलिस से निकटता भी बढाईये. भेदभाव न होगा किसी से, आप भी अपने मतभेद यहाँ न छिपकाइए.
ssistance forum to facilitate the citizens who fail to get it at the PS, Circle, District, Range and Zone level.
licing related thoughts, opinions and get useful security tips and guidance on any policing issue.
e are Police PR Cell's spontaneous responses and does not essentially constitute the departmental version, stand or policy for that matter.
UP Police PR
3,308 likes · 111 talking about this
Like
Message
Government Organization
Instant Official Police updates, Reactions and Interactions from the largest State of India. Tweet complaints, get response. Monitored at DGP level.
Lucknow
एसटीएफ से मुठभेड़ में शातिर हक्कल गिरफ्तार
3,308

UPPolice
@uppolicepr
The views expressed here are PolicePr Cell's spontaneous response
and does not essentially constitute the departmental version, stand or
policy on that matter.
Lucknow · uppolice.up.nic.in
4,950
TWEETS
259
FOLLOWING
2,439
FOLLOWERS
Follow

UP Police PR shared Pro TO Dgp UP's status.
September 8
कृपया FACEBOOK, TWITTER, YOU TUBE, WHATSAPP पर प्रचारित किसी भी प्रकार की अफवाह, वीडियो क्लीपिंग पर विश्वास न करें। उपद्रवियों पर सख्ती से काबू पाया जा रहा है।

Hyderabad Police

9490616555
fb/hyderabadpolice
Lost Report App
HYDERABAD CITY POLICE
TWEETS 5,081
FOLLOWING 157
FOLLOWERS 10.8K
LIKES 475
Follow
hyderabadpolice
@hydcitypolice
The Hyderabad Police is here for you 24/7. We're committed to making it quicker and easier for you to get the service you need from us.
Hyderabad
hyderabadpolice.gov.in/Default.htm
Joined October 2014
Tweet to hyderabadpolice
Tweets
Tweets & replies
Media
Pinned Tweet
hyderabadpolice @hydcitypolice · Aug 11
facebook.com/hyderabadpolic …
SMART GOVERNANCE AWARDS 2016
HAWKEYE
HYDCOP
Who to follow · Refresh · View all
Shah Rukh Khan @iamsrk
Follow
Aamir Khan @aamir_khan
Follow
Anupam Kher @Anupam...
Follow
Find friends

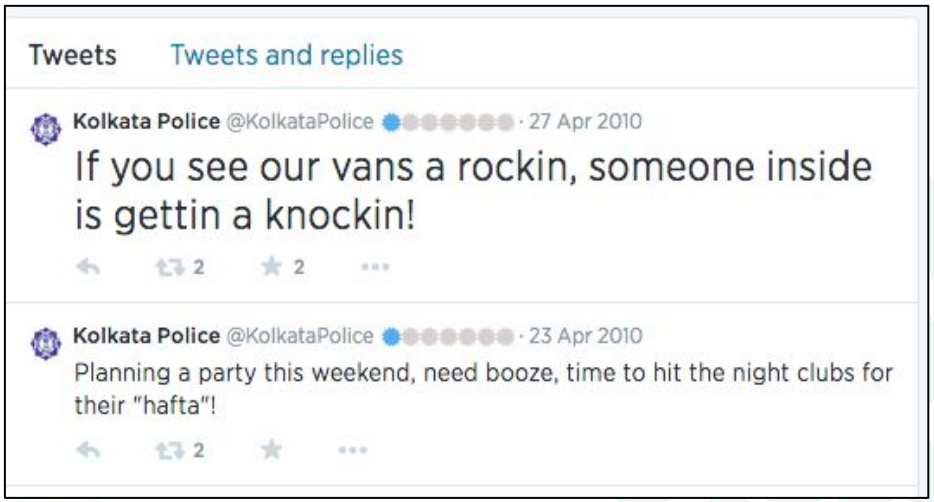
Hyderabad

FOLLOWERS
9
More
hyderabadpolice
@hyderabadpolice
Joined February 2012

Gurgaon Police

Guwahati Police

Kolkata Police

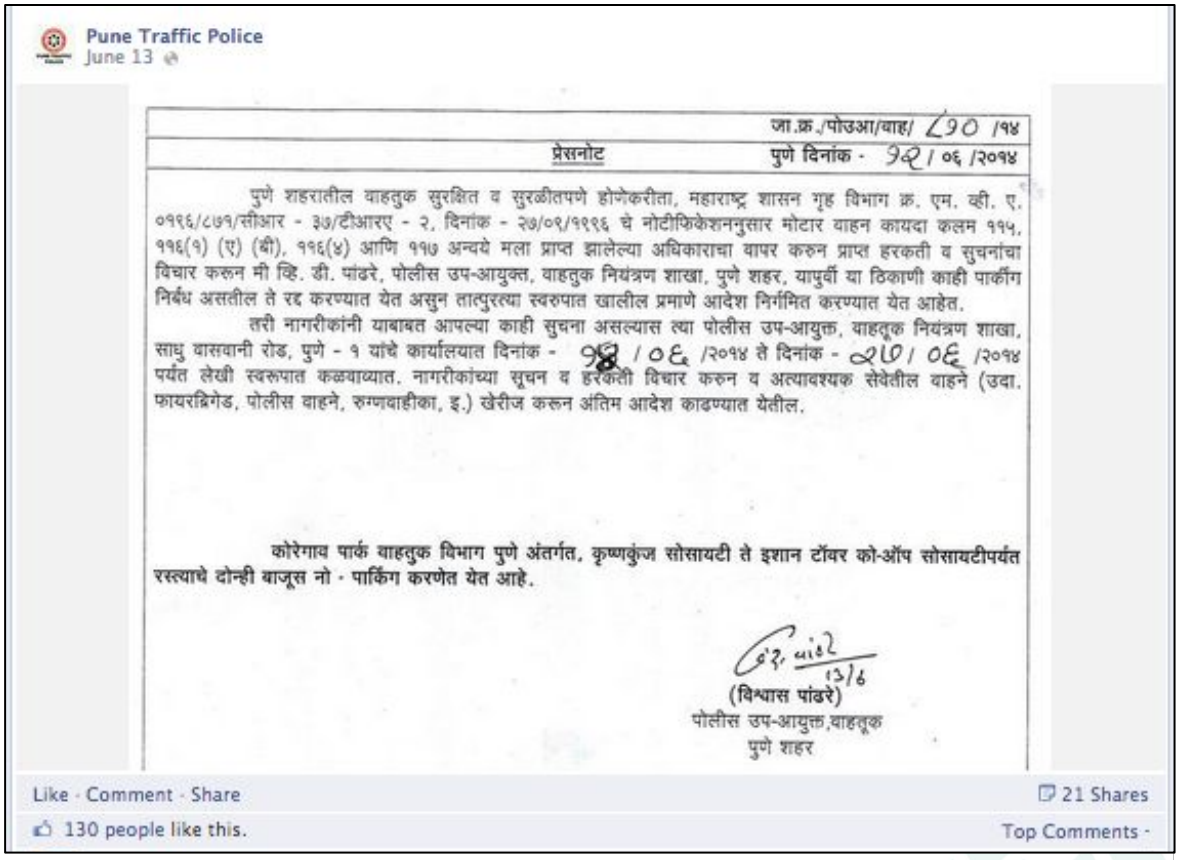


https://twitter.com/KolkataPolice

Pune Police

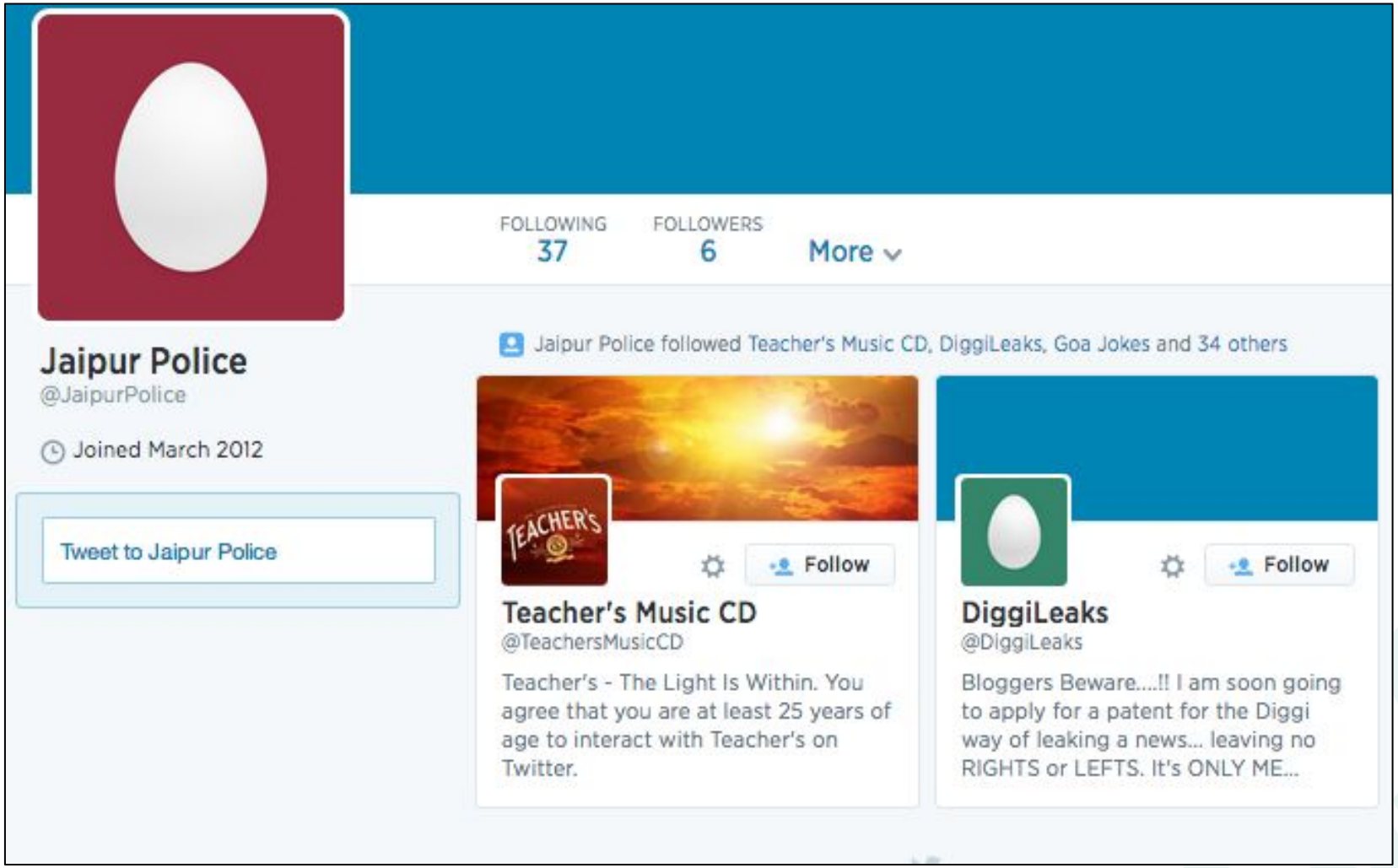
PUNE TRAFFIC POLICE
Pune Traffic Police
4.0 ★★★★☆ (671 ratings)
55,271 likes · 12,729 talking about this ·

TWEETS 2
FOLLOWING 0
FOLLOWERS 58
Pune Police
@PunePolice
punepolice.gov.in


Pune Traffic Police
June 13
जा.क्र./पोउआ/वाह/ ८९० /१४
प्रेसनोट
पुणे दिनांक - १२ / ०६ /२०१४
पुणे शहरातील वाहतुक सुरक्षित व सुरळीतपणे होणेकरीता, महाराष्ट्र शासन गृह विभाग क्र. एम. व्ही. ए. ०१९६/८७१/सीआर - ३७/टीआरए - २, दिनांक - २७/०९/१९९६ चे नोटीफिकेशननुसार मोटार वाहन कायदा कलम ११५, ११६(१) (ए) (बी), ११६(४) आणि ११७ अन्वये मला प्राप्त झालेल्या अधिकाराचा वापर करुन प्राप्त हरकती व सुचनांचा विचार करुन मी वि. डी. पांढरे, पोलीस उप-आयुक्त, वाहतुक नियंत्रण शाखा, पुणे शहर, यापुर्वी या ठिकाणी काही पार्कींग निर्बंध असतील ते रद्द करण्यात येत असुन तात्पुरत्या स्वरुपात खालील प्रमाणे आदेश निर्गमित करण्यात येत आहेत.
तरी नागरीकांनी याबाबत आपल्या काही सुचना असल्यास त्या पोलीस उप-आयुक्त, वाहतुक नियंत्रण शाखा, साधु वासवानी रोड, पुणे - १ यांचे कार्यालयात दिनांक - १३ / ०६ /२०१४ ते दिनांक - २७ / ०६ /२०१४ पर्यंत लेखी स्वरूपात कळवाव्यात. नागरीकांच्या सूचना व हरकती विचार करुन व अत्यावश्यक सेवेतील वाहने (उदा. फायरब्रिगेड, पोलीस वाहने, रुग्णवाहीका, इ.) खेरीज करून अंतिम आदेश काढण्यात येतील.
कोरेगाव पार्क वाहतुक विभाग पुणे अंतर्गत, कृष्णकुंज सोसायटी ते इशान टॉवर को-ऑप सोसायटीपर्यंत रस्त्याचे दोन्ही बाजूस नो - पार्किंग करणेत येत आहे.
(विश्वास पांढरे)
पोलीस उप-आयुक्त,वाहतूक
पुणे शहर
Like · Comment · Share
21 Shares
130 people like this.
Top Comments ·

Jaipur Police

Like it or not but you are there!



Multiple accounts

Accounts in the country!

In an attempt to understand the comprehensive view of usage of Online Social Media by Police organizations, we have developed this page with different Facebook and Twitter handles of various police organizations in the country. If you see any of the pages / handles are missing or erroneously linked to wrong pages / handles, please let us know, we will be happy to fix it. Our hope is to create a True Positive dataset of all Social Media presence of police organizations. Please feel free to write to pk@iiitd.ac.in for any feedback / suggestions / questions.

State	Police organization with State/City	Facebook page	Twitter handle	Source
Andaman & Nicobar	Andaman Police	-	AndamanPolice	Yet to be confirmed
Andhra Pradesh	Andhra Police	uday8bnapsp	-	Yet to be confirmed
Andhra Pradesh	Visakhapatnam Traffic Police	visakhapatnamtrafficpolice	-	Yet to be confirmed
Assam	Assam Police	Assam-Police-144712972235962	assam_police	Taken from website
Assam	Central Police District - Guwahati	CPDGuwahati	-	Yet to be confirmed
Assam	Guwahati Police	Guwahati-City-Police-211606768891234	-	Yet to be confirmed
Bihar	Patna Traffic Police	PatnaTrafficPolice	-	Yet to be confirmed
Chandigarh	Chandigarh Traffic Police	trafficpolicechd	-	Taken from website
Chandigarh	Chandigarh Police	Chandigarh-Police-224891637660233	-	Yet to be confirmed
Chhattisgarh	Chhattisgarh Police	Chattisgarh-police-270969929619557	-	Taken from website
Chhattisgarh	Durg Police	Durg-Police-598102293653829	-	Taken from website

http://precog.iiitd.edu.in/research/osm-policing-india/handles.html

Analyzing Accounts

Continuing our efforts in helping policing in the country with usage of online social media, we have built this portal. The Portal helps analyse the presence of different police Facebook pages and Twitter handles, it also helps in comparing these accounts. This first version presents four different analyses described below. Currently, the portal has data for the last 5 years of these pages & accounts.

a) Total posts / Likes / Comments: This shows the engagement of the police department on social media on a given time frame. This presents the total number of posts, total number Likes, and total number of Comments on the respective Facebook pages. This also presents the total number of Retweets, Tweets, and Favorites of the Twitter handle.

b) Accountability Tree: We capture this through different words such as "how can", "why" and "issues". These words populated in the list "Change Keyword". For example, you can view the tree with "why" as the keyword to understand the questions posed in the status updates / posts with "why", one can modify the keyword to "need" to understand the needs of citizens mentioned in the posts. We believe, this can be very useful for police organizations to understand the actionable information from the posts. See More -->

http://precog.iiitd.edu.in/research/osm-policing-india/analyse/

Thank you

pk@iiitd.ac.in
precog.iiitd.edu.in
fb/ponnurangam.kumaraguru