



Who Watches (and Shares) What on YouTube? And When?

Using Twitter to Understand YouTube Viewership

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Motivation



Justin Bieber ✓

@justinbieber

Follow

so many activities it is making my head spin! haha
[youtube.com/watch?v=I9-jN8...](https://www.youtube.com/watch?v=I9-jN8...)

Reply Retweet Favorite More

YouTube



Step Brothers- 'Activities'

My favorite clip from the movie Step Brothers. Credit in video to Columbia Pictures. Copyright Columbia Pictures [2009]

Motivation

1st large-scale study of
combination of  and 

provides **insights** on
WHO watches *WHAT* and *WHEN*

Twitter and YouTube Dataset



- Data acquisition
06/06/13 – 06/08/13
- **17Mln** tweets,
87K accounts
- Demographics,
interests, behaviour



Inter-
event
time



- Data acquisition
07/07/13 – 08/01/13
- **5Mln** distinct videos
- Categories, likes,
dislikes, views,
Freebase topics

Data is available!

<http://tinyurl.com/YoutubeAndTwitter>

Who Watches What?



demographics

gender
location
occupation



behaviour

social
sharing
influence



interests

sports
music
tech/gaming



politics

left/right

Demographics



share **more popular** videos than



share videos **slower** than



share videos **faster** than



Behaviour



social

correlates most with **decrease** in



sharing

correlates most with **increasing**
interest in

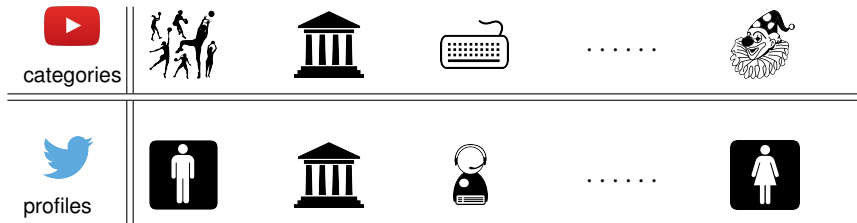


influence

correlates most with **increase** in

Video
Popularity

Interests



Clustering by YouTube categories reveals Twitter groups:

sports/male, entertainment/female,
 “new junkies”/tech kids, news & politics, ...

Twitter and YouTube **interests are aligned**

Political Alignment

RANK	LEFT	RIGHT	APOLITICAL
1	Minecraft	Barack Obama	Minecraft
2	Call of Duty II	Alex Jones	Call of Duty II
...
6	Film	Ron Paul	Hip hop music
...
13	Album	Police	Call of Duty
14	Call	Mitt Romney	Video blog
15	Song	Russia Today	Episode
...
25	Heavy metal	Boston	NBA
...
27	Episode	US NSA	Super Junior
...
29	Justin Bieber	Bomb	Pokemon
30	Barack Obama	Train	Music

Right-aligned users share more politically charged content.
Left-leaning users are similar to **apolitical**.

Who Watches What and When?

by user groups

promotional accounts

non-promotional accounts

by video content

News & Politics

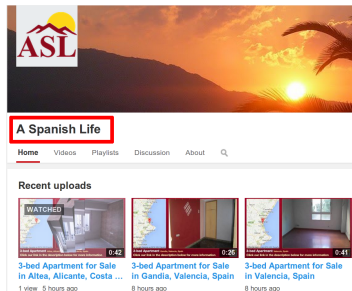
Gaming

Pets & Animals

by user activity

amount of shares

Promotional accounts



semi-matching usernames
obvious...

Promotional accounts



Mallikharjun Patnala
@MaLLiBaBu1987

I added a video to a @YouTube playlist youtu.be/hTiqalewkik?a
Political Antakshari || Rahul Gandhi || Narendra Modi || Kejriwal ||

View translation

Reply Retweet Favorite More

YouTube



teluguone

Home Videos Playlists Channels Discussion About

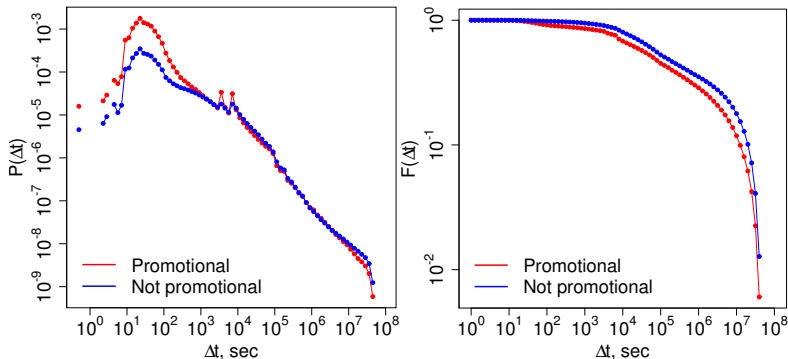
Political Antakshari || Rahul Gandhi || Narendra Modi || Kejr...
1,762 views 1 day ago
Political Satire/Political Parodies/Political Humor

Funny Satirical Video on Latest Happenings in Indian Politics

Non-Stop Comedy - <http://www.youtube.com/user...>
Animated Rhymes Stories -

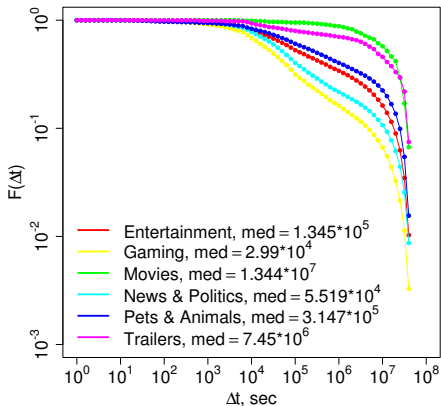
non-matching usernames
not so obvious...

... by user groups



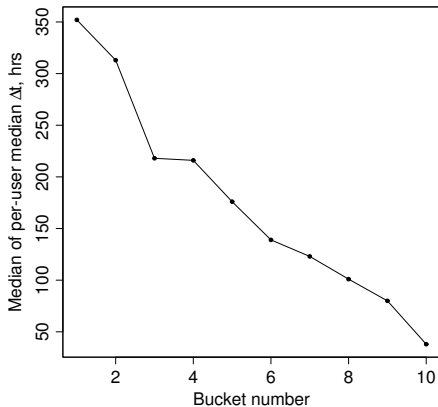
Promotional accounts share videos 20 hours **earlier** than **non-promotional** accounts

... by content



News & Politics videos are shared **faster** than **Movie & Trailers**

... by user activity



Users **sharing more videos share faster**

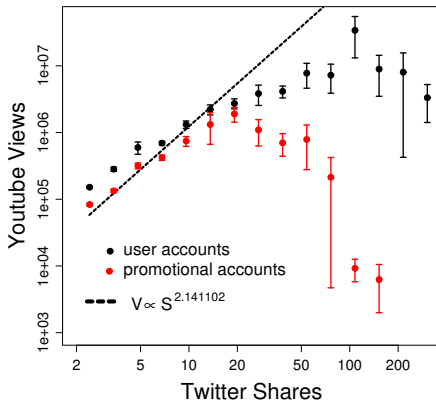
Video Popularity Analysis

Amount of Shares	First-order Exposure	Social Impact	Second-order Exposure	Share of Voice
✓✓	✓	✓✓✓	✓✓	✗

Among five metrics of Twitter attention
social impact i.t.o. retweets is
the best predictor for the video popularity

FoF is better predictor for the video popularity
than **mere** amount of **followers**

Shares vs. Popularity



**Information overload or spamming behavior
in promotional accounts is detected**

Chair of Systems Design @ ETH Zürich

Interdisciplinary group ...

... involved in data-driven modeling ...

... of social, socio-technical and socio-economic systems



QCRI is hiring!
iweber@qf.org.qa

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Q&A

Acknowledgements

- ETH Zürich funding from Swiss National Science Foundation under grant CR2111.146499 / 1,
- QCRI Twitter data from GNIP

WSDM2014 Peer Production/Data Analysis

Is a Picture Really Worth a Thousand Words? - On the Role of Images in E-commerce

A Better World for All: Understanding and Promoting Micro-finance Activities in Kiva.org

Visualizing Brand Associations from Web Community Photos

On Image Ranking in Heterogeneous Social Media

Inferring the Impacts of Social Media on Crowdfunding

Detecting Non-Gaussian Geographical Topics in Tagged Photo Collections