computational social media

lecture 6: watching

daniel gatica-perez
announcements

project reminder

indicative feedback & in-depth evaluation

assignment #3 will be discussed today

reading #7 will be presented today:
M. Redi, N. O Hare, R. Schifanella, M. Trevisiol, A. Jaimes
6 Seconds of Sound and Vision: Creativity in Micro-Videos
CVPR 2014
reminder: project schedule

1. team building: DONE
   - email the list of your team members on Fri 05.03.2021
   - each team will have a designated project mentor

2. project pitch: DONE
   - 5-minute presentation of your project on Fri 26.03.2021
     structure: title, problem, goals, approach, evaluation

3. project progress presentation: DONE
   - 5-minute presentation about project progress on Fri 30.04.2021

4. final project presentation on Fri 11.06.2021
   - talk: 25-minute presentation + 20-minute questions
   - program: 09:00-16:30

5. final project report by Fri 18.06.2021
   - ACM conference paper format (6 pages + references + appendix)
project presentation day schedule

09:00-09:45  group 1
09:45-10:30  group 2
10:30-10:45  break
10:45-11:30  group 3
11:30-12:15  group 4

12:15-13:00 lunch break

13:00-13:45  group 5
13:45-14:30  group 6
14:30-14:45  break
14:45-15:30  group 7
15:30-16:15  group 8

+ everybody is encouraged to attend the full day
+ please reserve the slot for your team
projects

presentation
- each team has a 45-min slot: 25 min talk + 20 min for questions
- all team members are expected to present
- structure: intro, goals, data, methods, results & discussion, conclusion
- make each team member’s contribution explicit (who did what)
- include lessons learned

report
- ACM conference paper format:
  6 double-column pages + references + appendices (if needed)
- latex template available (ask your project mentor in case of questions): https://www.acm.org/publications/proceedings-template
- structure: abstract, introduction (including goals), data, methods, results & discussion, conclusion, references
- collaborative tools like overleaf are useful
- submit slides & report by 18.06.2021, 7pm
indicative feedback & in-depth evaluation

thank you for participating in the indicative feedback

the course will follow an in-depth evaluation (details about the date will be announced).
this lecture

1. the rise of online video
2. conceptualizing YouTube
   #1: YouTube is a strange place
   #2: YouTube is a popular place
   #3: YouTube is a place for pirates
   #4: YouTube is a marketplace
   #5: YouTube is a place for expression
   #6: YouTube is a data source
1. the rise of online video
“Everything exists to end up in a book”
Stéphane Mallarmé, 1842-1998

“Everything exists to end up in a photograph”
Susan Sontag, On Photography, 1977

“Everything exists to end up in YouTube”
reminder: participation in social media

% of U.S. adults who use...


YouTube: 73%

http://www.pewinternet.org/fact-sheet/social-media/
YouTube statistics
(may 2021, some numbers from earlier years)

founded in February 2005
#2 most popular website (after google)

2021 stats:
2B logged-in monthly users
500h of video uploaded per minute
   (300h in 2015; 100h in 2014)

earlier stats:
1B hours of video watched every day (2020)
mobile: over 70% of global watchtime (2015)

https://www.youtube.com/about/press/
synchronous
few-to-many
passive
centralized

asynchronous
many-to-many
interactive
decentralized
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View #1: YouTube is a strange place
J. Stossel, ABC 20/20:

"Do you like watching kids doing stupid and reckless things?
Beauty queens falling down?
Or a thousand prisoners dancing to the music of Thriller?
It’s all in YouTube"

Burgess & Green:

"Rather than video about nothing, this could be situated in the much longer history of vernacular creativity – the wide range of everyday creative practices ... practiced outside the cultural value systems of high culture or commercial practice"
Survey: YouTube Stars More Popular Than Mainstream Celebs Among U.S. Teens
Multiple roles: a broadcast platform, a media archive, and a social network

Various forms of cultural, social, and economic values are collectively produced by users, via their consumption, evaluation, and entrepreneurial activities

Double function as both a top-down platform for the distribution of popular culture and a bottom-up platform for vernacular creativity

YouTube cultural ‘generativity’ (Burgess & Green, 2009)
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View #2: YouTube is a popular place
YouTube and popular videos

video popularity distributions (power-law with truncated tails)

large-scale analysis (10^6 videos)

no content was analyzed

video popularity distribution of YouTube: power-law in waist, sharp decay in tail

social network & content-diffusion platform

YouTube as a **content-driven social network**: social network where interaction is mediated by content (user-content-user)

**explicit** (subscriptions) & **implicit** (comments) graphs

**low reciprocity**: only 25% of users have one or more reciprocate links on the subscription graph

**poor assortative linking** («preference for a network's nodes to attach to others that have similar degree»): users subscribe to much more popular users

**low homophily** (26%) measured by the predominant upload category that users upload to

similar to Twitter regarding these features

M. Wattenhofer, R. Wattenhofer, Z. Zhu,  The YouTube Social Network, AAAI Int. Conf. on Web and Social Media (ICWSM), 2012
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View #3: YouTube is a place for pirates
YouTube and copyright infringement

near-duplicate (ND) detection: YouTube key business feature

YouTube partners with media companies to detect unauthorized copies

NDs are seen as redundant and often deemed to be eliminated

Yet, NDs are not always uploaded with bad intent

May 2020: "9,000+ partners use Content ID, including major network broadcasters, movie studios and record labels. They have claimed over 800 million videos, helping them control their content and make money on videos containing copyrighted material. More than 75 million active reference files in Content ID database."

https://support.google.com/youtube/answer/2797370?hl=en
https://www.youtube.com//about/press/
Content ID official video:

https://www.youtube.com/watch?v=9g2U12SsRns
block content

monetize video

track viewer data to get detailed analytics

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View #4: YouTube is a marketplace
Be seen where everyone is watching

With TrueView ads, reach potential customers when they watch or search for videos on YouTube – and only pay when they show interest.

https://www.youtube.com/ads/
LSTN Headphones advertised their video on YouTube to share their story.
Learn how Majestic Heli Ski uses YouTube and Video Ads to grow their business.

11,851 views • Aug 23, 2017

https://www.youtube.com/watch?v=wf-UMK7YCc4&t=102s
Work with trained and trusted creative partners to develop your brand’s story

Whether starting from scratch or repurposing existing videos and images, our creative partners can help you bring your business to life through stunning visual assets.

https://www.youtube.com/ads/making-a-video-ad/
Only pay when they watch your video ad

You only pay when someone chooses to watch at least 30 seconds or clicks on your TrueView ad.

GET THE MOST FROM YOUR BUDGET
Google Ads

You'll create your video ad with Google Ads

In a few easy steps your video ad will be up and running. Although your ad will appear on YouTube, you'll manage your campaign using Google Ads, an advertising platform used by businesses running ads on Google and its advertising network – which includes YouTube.

You'll now be redirected to sign in to or create a Google Ads account.

GET STARTED

HOW YOU'LL SET UP YOUR AD

1. Select your video from YouTube

If the video you want to use for your ad isn't already on YouTube, upload it now. Don't have a video? Get help here.

2. Choose who should see your ad

Select the locations where you want to show your ad and define the types of people you want to reach.

3. Choose how much you want to spend

Set the budget for your video ad campaign.

https://www.youtube.com/ads/signup/?sf=video_youtube&sourceid=awo&hl=en&subid=ww-ww-et-v_ads_yt_1index-new
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View #5: YouTube is a place for expression
Me at the zoo
Source: Jawed Karim (Apr 2005)

President Barack Obama endorses Joe Biden For President
Source: Joe Biden (Apr 2020)
nonverbal communication: what do YouTubers express?

gaze

prosody and speaking activity

proxemics

gestures

body posture
one world (MadV, Nov. 2006)

This is an invitation

to make a stand

Post your response now

https://www.youtube.com/watch?v=FHc0xjRGI60
2000 video replies
https://www.youtube.com/watch?v=Z-BzXpOch-E
Viva l'Orchestra : La valse n°2 de Chostakovitch avec l'Orchestre National de France

https://www.youtube.com/watch?v=8c9QzDfFjxY
learning media skills: making YouTube videos

Ethnographic analysis of 200 videos & 150 interviews of YouTube video makers (kids, youth, parents, and other adults)

“Personally expressive media: enables the creator to communicate aspects of the self [...] a wish to communicate personal ideas, feelings or experiences through video”

Media skills are "not developed overnight .. [but] … built up through the micro-interactions that individuals have when creating personally interesting media"
how-to videos: YouTube as a knowledge accelerator
documenting and sharing experiences over time

Health Vlogs as Social Support for Chronic Illness Management

JINA HUH, Michigan State University
LESLIE S. LIU and TINA NEOGI, University of Washington
KORI INKPEN, Microsoft Research
WANDA PRATT, University of Washington

ACM Reference Format:
DOI: http://dx.doi.org/10.1145/2630067

YouTube users posting vlogs about experience with chronic illness

The first and last vlog of each user was coded w.r.t content to understand how life experience changed over time

Vlogs are used as a way of building community and provide support to individuals who experience illness
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View #6: YouTube is a data source
Kinetics human action video dataset: 400 actions, min. 400 YouTube videos each (306,000 videos)

Table 3. Performance training and testing on Kinetics with and without ImageNet pretraining. Numbers in brackets () are the Top-5 accuracy, all others are Top-1.
YouTube-8M dataset

YouTube-8M is a large-scale labeled video dataset that consists of millions of YouTube video IDs, with high-quality machine-generated annotations from a diverse vocabulary of 3,800+ visual entities. It comes with precomputed audio-visual features from billions of frames and audio segments, designed to fit on a single hard disk. This makes it possible to train a strong baseline model on this dataset in less than a day on a single GPU! At the same time, the dataset's scale and diversity can enable deep exploration of complex audio-visual models that can take weeks to train even in a distributed fashion.

Our goal is to accelerate research on large-scale video understanding, representation learning, noisy data modeling, transfer learning, and domain adaptation approaches for video. More details about the dataset and initial experiments can be found in our technical report and in previous workshop pages (2018, 2017). Some statistics from the latest version of the dataset are included below.

- **6.1 Million** Video IDs
- **350,000** Hours of Video
- **2.6 Billion** Audio/Visual Features
- **3862** Classes
- **3.0** Avg. Labels / Video

https://research.google.com/youtube8m/
number of videos per YouTube category

https://research.google.com/youtube8m/
what to remember

online video is different than text & still images continues to rise

YouTube is: multifaceted: broadcast platform, media archive, social network
a top-down and bottom-up ecosystem
  top-down: content providers & advertisers looking for monetization
  bottom-up: expressive channel appropriated by users in many ways
a data source for action & object recognition
questions?

daniel.gatica-perez@epfl.ch