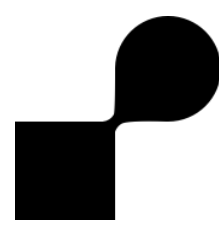


«Critical Social Media Analysis using mixed methods»

Welcome!

Dr. Simon David Hirsbrunner, Michael Tebbe
Human-Centered Computing, Institute of Computer Science
Freie Universität Berlin
Session I, 5 Nov 2020



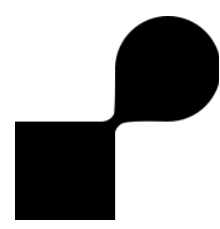
Who are we?

Dr. Simon David Hirsbrunner

- Academic background: international relations (MA), media studies (MA), media ethnography (PhD)
- Research focus: social aspects of computational and data practices, social media debates on climate change, and methods to investigate debates on digital media.

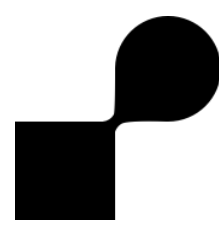
Michael Tebbe, MSc

- Academic Background: Media Computer Science (M.Sc.)
- Research Focus: Interactive Machine Learning, Controllability/Intelligibility



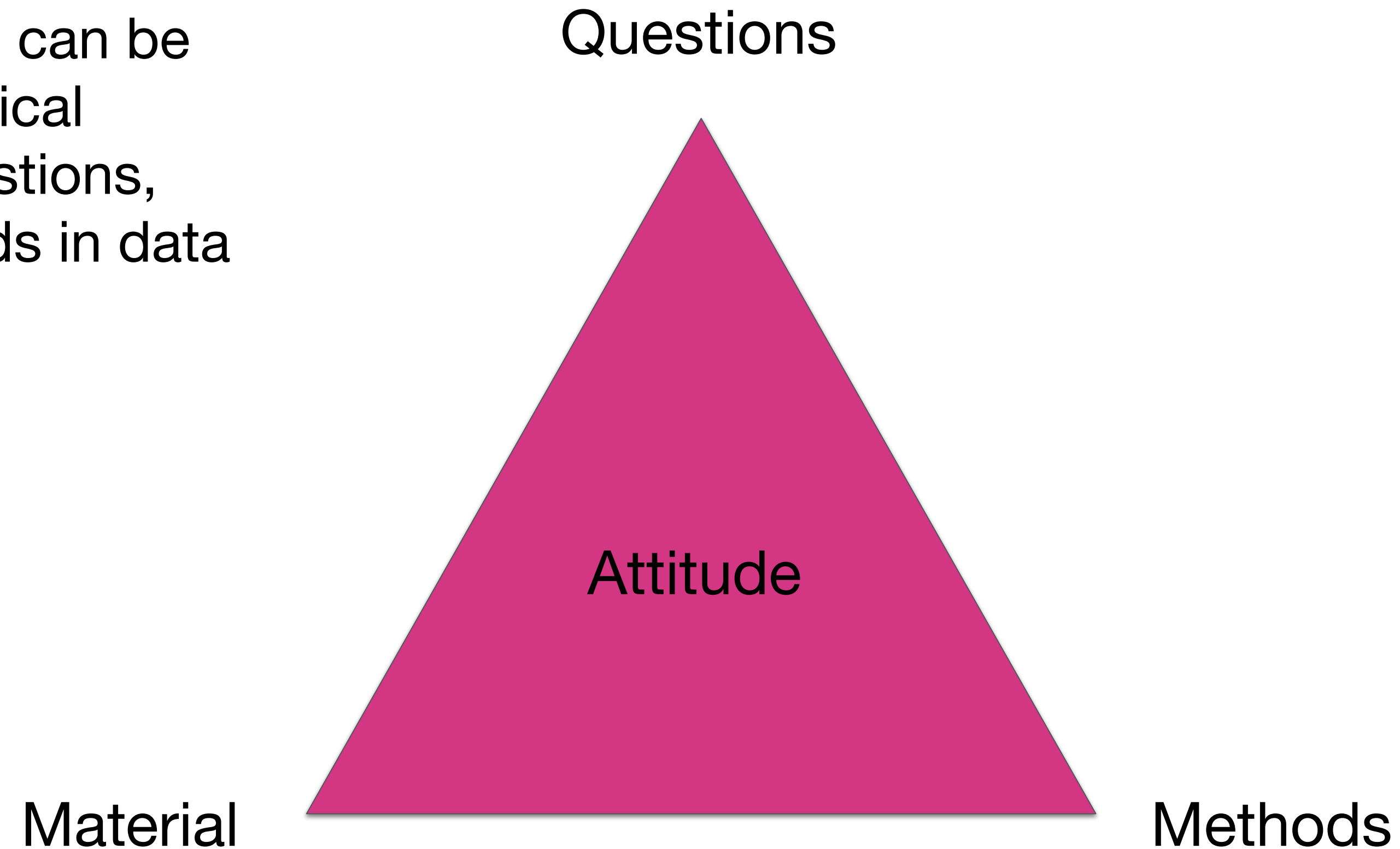
What we will talk about today

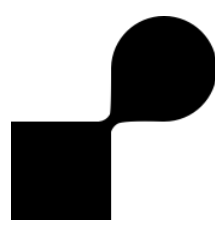
- Logic of the seminar
- Thematic focus
- Methodological focus
- Objectives
- Seminar plan
- Organization
- Participation and course grading
- Questions



Logic of the seminar

Critical data science can be understood as a critical stance towards questions, material and methods in data science...





Thematic focus and material

How do people seek, debate and negotiate science-related knowledge in online media?

Focus on

- polarized debates issues and debates
- the issue of climate change
- post-video discussions on YouTube
- fragility of information in online media (problem of source attribution, polarization, etc.)

We start with debates around terms and discourses such as ‘climate alarmism,’ ‘climate lie,’ ‘climate realism,’ ‘climate denial,’ ‘climate skepticism,’ ‘climate engineering,’ ‘geo-engineering,’ ‘chemtrails’

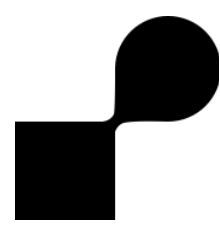
Possible excursions into Telegram Chats and COVID-19 conspiracy theories

IF ALL EARTH'S ICE MELTED



Go to: https://www.youtube.com/watch?v=VbiRNT_gWUQ&t=21s

and: <https://app.sli.do/event/woes6vqx/embed/polls/9038bbe7-4b8d-4c37-a532-244db3cf9594>

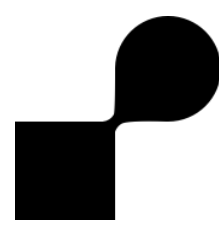


Methodological Focus

This is not a machine learning methods course.

- > The methods we use are examples.
- > We focus on understanding the assumptions and values incorporated in machine learning models.

This course is mainly geared toward Master's Students!



Methodological Focus: You will **NOT** learn in this....



Social Network Analysis

Goal: Mine Information from Networked Data

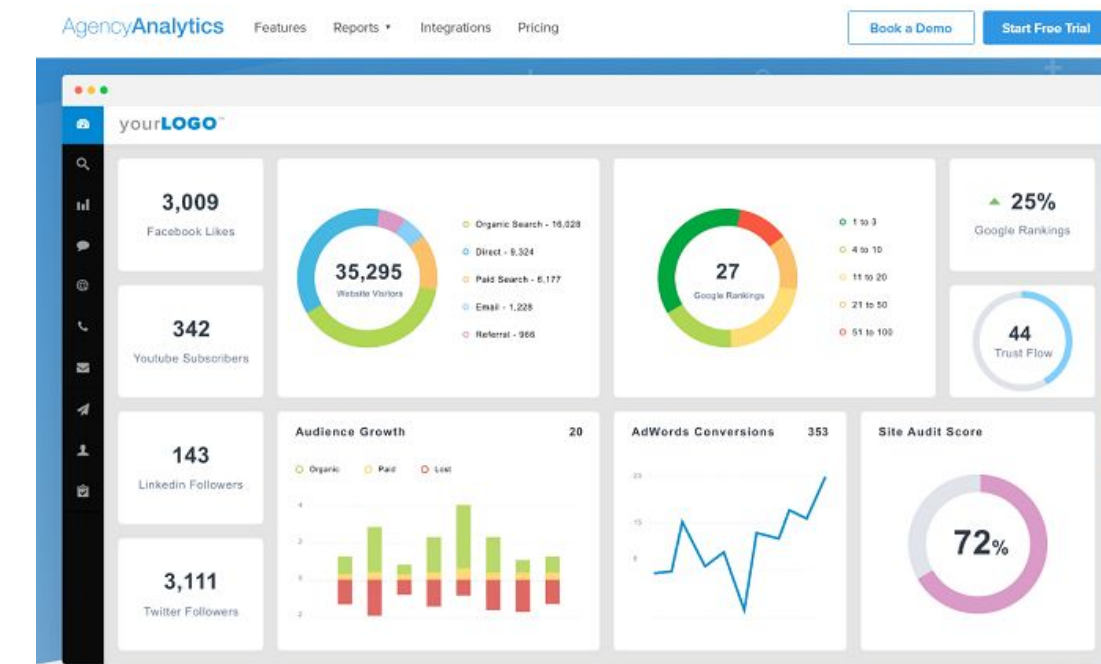
possible Approach: Employ graph-theoretic Methods to find Cliques



Sentiment Analysis

Goal: Automatically detect sentiment of posts

possible approach: train & optimize a classifiers with a labeled dataset



Social Media Analytics/Statistical Analysis

Goal: Improve user engagement

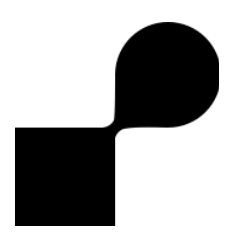
possible approach: Analyze # of visitors, click-through rate...



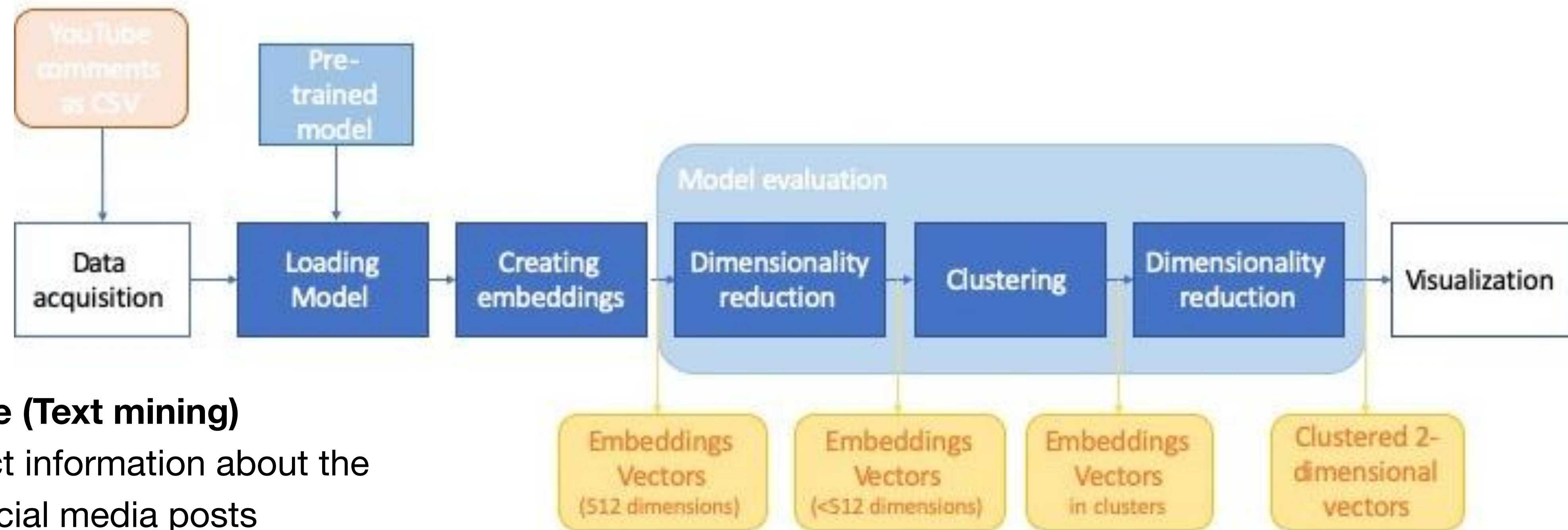
User Interviews/Surveys

Goal: Study user behaviour/opinions

possible approach: online surveys



Methodological Focus: You will learn...



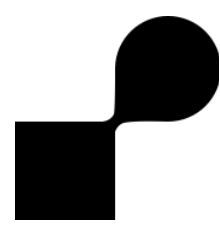
Our Pipeline (Text mining)

Goal: Extract information about the content of social media posts

Approach:

- unsupervised
- pre-trained Language Model
- Hyperparameter tuning
- (Visualization)

visualization courtesy of Isabel Schmuck



Why “Critical”? (I)

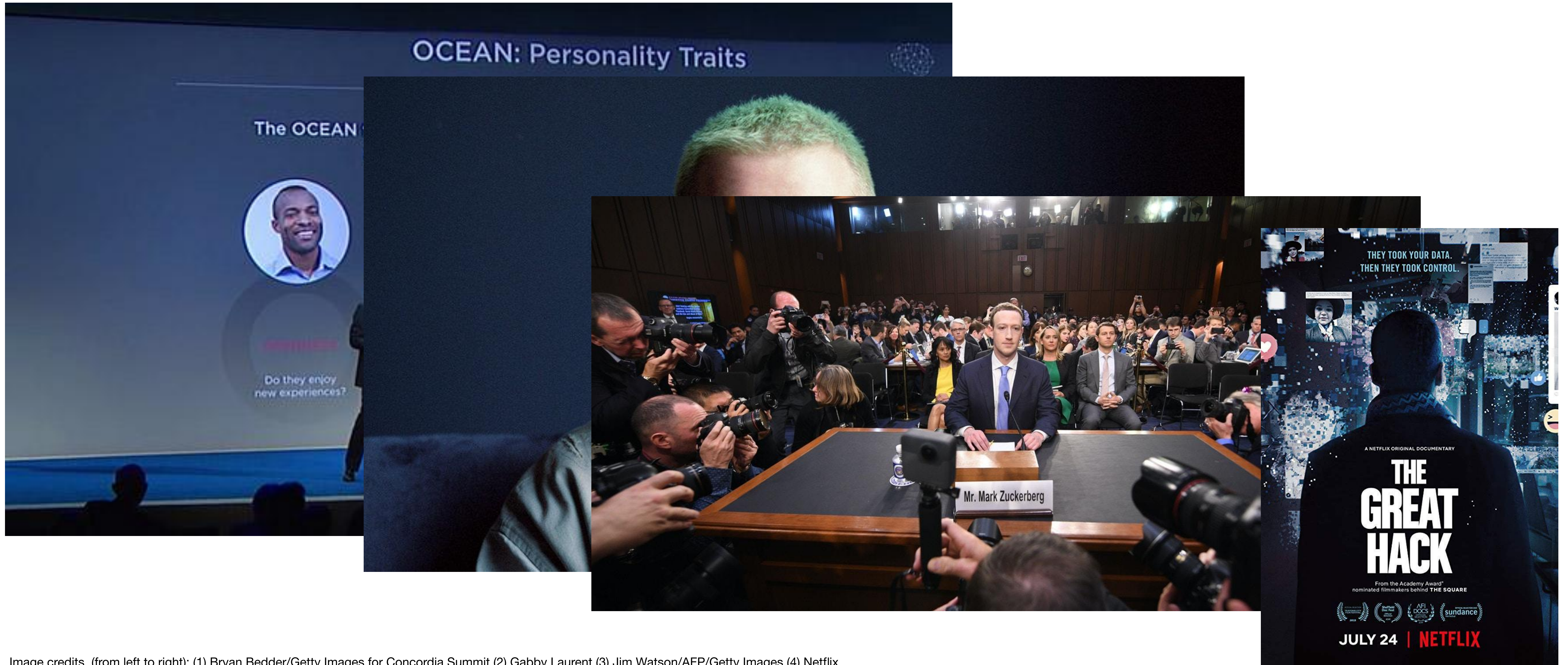
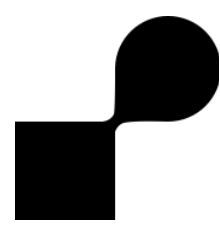


Image credits (from left to right): (1) Bryan Bedder/Getty Images for Concordia Summit (2) Gabby Laurent (3) Jim Watson/AFP/Getty Images (4) Netflix



Why “Critical”? (II)

- Competing interpretations
- CA model as scary tech or scam?
 - How robust was the model and the data behind the profiling of individual citizens?
 - To what extent did CA ‘turn clicks to votes’?

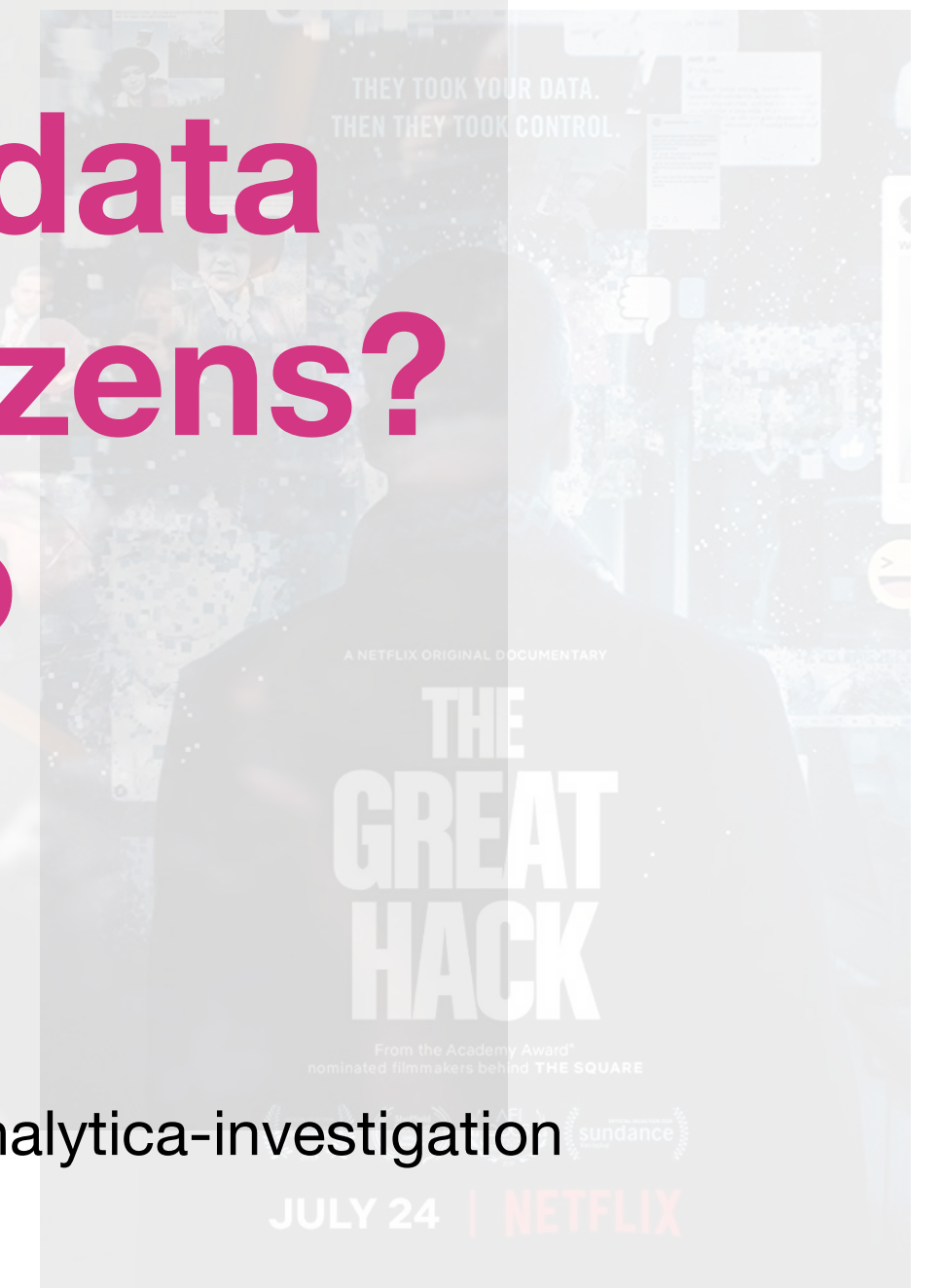
Sources:

<https://www.nzz.ch/technologie/der-cambridge-analytica-skandal-faellt-in-sich-zusammen-ld.1580708>

<https://www.theguardian.com/commentisfree/2020/oct/11/the-observer-view-on-the-information-commissioners-cambridge-analytica-investigation>

https://ico.org.uk/media/action-weve-taken/2618383/20201002_ico-o-ed-l-rtl-0181_to-julian-knight-mp.pdf

<https://www.gsb.stanford.edu/insights/science-behind-cambridge-analytica-does-psychological-profiling-work>



Why “Critical”? (III)

Enable a critical stance on social media analysis (SMA)

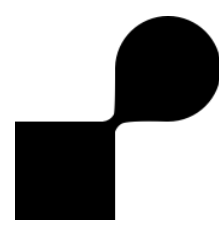
- experiment with ways to analyse social media data
- learn how to critically assess the explanatory power of data and models
- engage in a “Critical technical practice”
- “data” is Latin for “given: in this course, don’t take data as given but consider it as socio-technically constructed.

Source: Agre, Philip. „Toward a critical technical practice: Lessons learned in trying to reform AI“.

Social Science, Technical Systems and Cooperative Work: Beyond the Great Divide. Erlbaum, 1997.

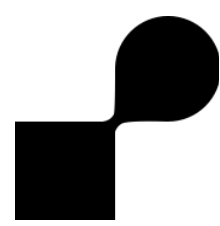
Image: Tom Ingvarlsen/ingvards.dk





Plan of the seminar

- Thematic introduction
- Data collection
- Machine Learning for Text Mining
- Qualitative Methods of Analysis
- Project: pitch
- Selected aspects (platforms, chemtrails, FATE), invited experts
- Final presentations



Organization

WebEx Meetings for sessions

Github for updated information, sources and discussion:

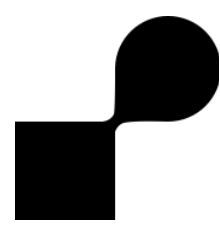
https://github.com/FUB-HCC/seminar_critical-social-media-analysis

→ please create a Github account to participate in the seminar

Whiteboard for official announcements

Campus Management for grading

If you have troubles with access or participation - talk to us!
(this situation is strange for all of us...)



Registration

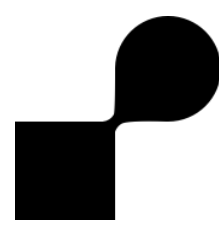
Many registrations. We have to see how to accommodate everyone who wants to stay.

Please let us know in an email (to both instructors)

1. your Github name

2. whether you want to

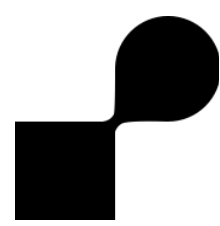
- participate without differentiated grading (Master students)
- participate with differentiated grading (Bachelor students, etc.)
- audit the course (guests)



Participation and course grading

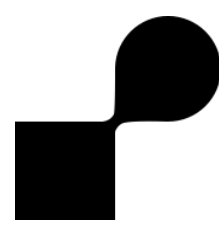
How to pass this seminar:

Assignment	Scope	Due date
Pitch as short video	3 - 5 min	Jan 2021
Final presentation of team project as video	15 min	end of semester
Written report of your team project	4500 words	1000 words until end of semester, final report at the end of semester break
Active participation 80% to-be-fulfilled	participation during class, small assignments between classes	each week



Assignments for next week

- Make yourself acquainted with the issue of climate change on YouTube
- Browse through the YouTube videos and comments sections mentioned on Github
- Choose one video / discussion and write a short commentary (150 words) as a Github issue
 - What was especially interesting for you?
 - What is the primary controversy debated by users?
 - Comment on a commentary by another student or ask her/him a question



Your questions?

- now per chat / micro
- per Email / Github Issue (label: orga)
- consultation hours
 - Simon Hirsbrunner Mondays 11 - 12 am
 - Michael Tebbe Mondays 11 - 12 am
 - Please write an email beforehand to receive WebEx link

Thanks!