

# Digital Democracy Lab

## An Infrastructure to Study the Implications of Digital Technology for Democracy

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# Focus: political implications of digital technology

1. Political communication and opinion formation
2. State-citizen interactions (eGovernment)
3. Political participation (civic tech)

US tech companies call on France to abandon digital tax plans

Executives and lobbyists criticise measure but urge against retaliation

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Jeff Bezos says Amazon is writing its own facial recognition laws to pitch to lawmakers

The tech giant's hope is that federal lawmakers will adopt much of its draft legislation.

By Jason Del Rey | @DelRey | Updated

## The Cambridge Analytic affair reveals Facebook's "Transparency Paradox"

Sinan Aral, a professor at MIT, fears the fallout from could limit researchers' access to

Privacy concerns could derail unprecedented plan to use Facebook data to study elections

By Jeffrey Mervis | Sep. 24, 2019, 4:50 PM

EU plans sweeping regulation of facial recognition

Brussels explores rules to give citizens explicit rights over their data

## I Sold Political Ads for Google. Banning Them Won't Work.

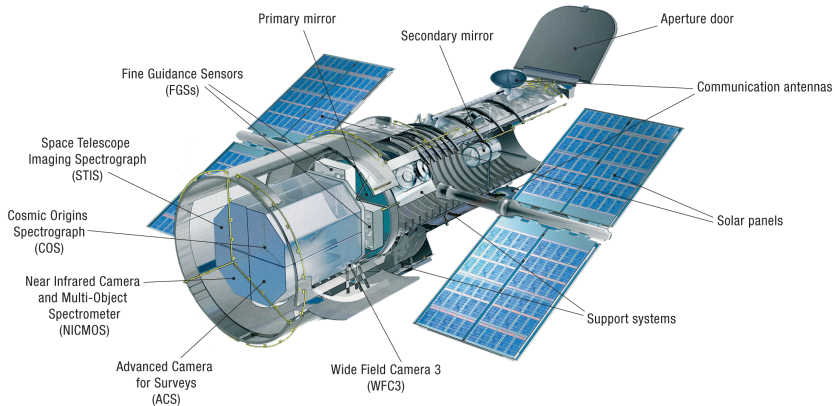
Tech companies can help fix what's wrong with digital political advertising. Instead, Twitter is declaring the problem insoluble.

NOVEMBER 6, 2019

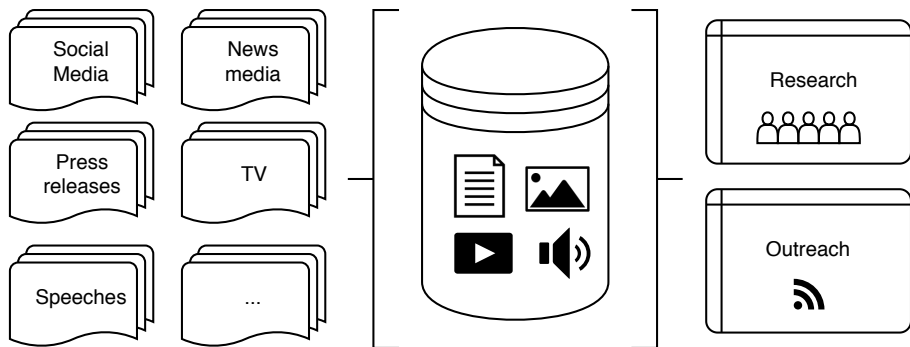
Jeffrey Webb

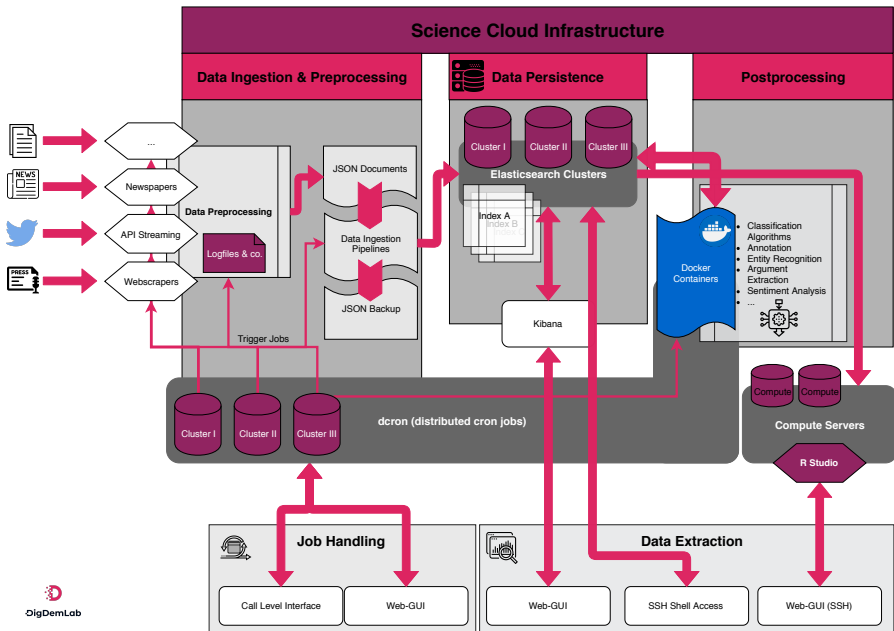
Worked in digital advertising at Google from 2011 to 2016

# A telescope for digital democracy



# An infrastructure for data collection and analysis





# Data ingestion and preprocessing

- Distributed Cronlike (d-cron) Scheduler (three nodes with 4 virtual CPUs, 16GB of RAM each)
- Python-based software developed by UZH Science Cloud to manage the processes
- Flexible scheduling of ingestion and preprocessing tasks regardless of language (R, Python, bash, etc.)



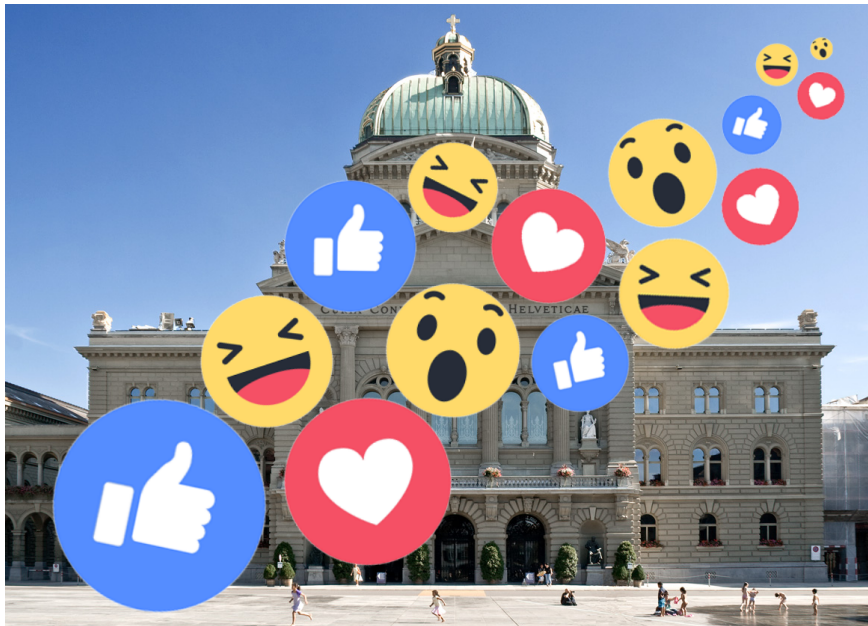
# Data persistence

- Three Elasticsearch clusters (12 virtual cores, 48GB RAM) maintained by UZH Science Cloud
- Database updated daily from d-cron

# Postprocessing and analysis

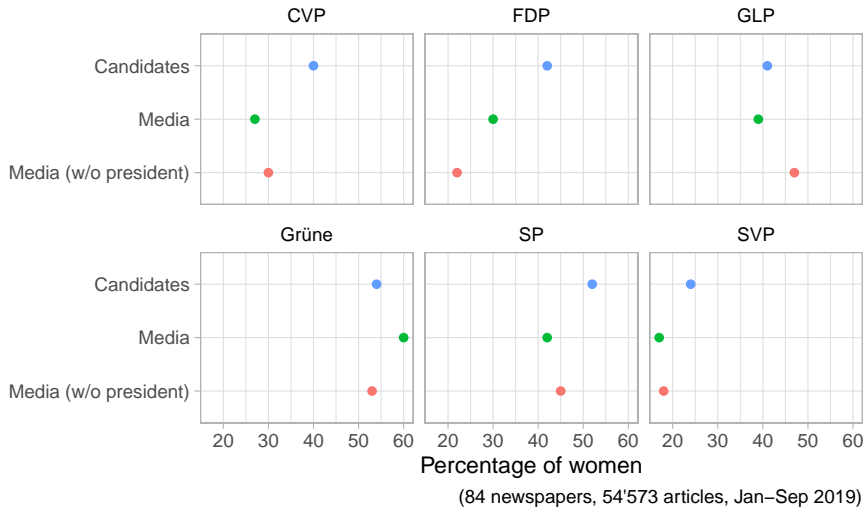
- ✧ Three RStudio servers
- ✧ Supervised classifications
- ✧ Topic modeling
- ✧ Named entity recognition
- ✧ Sentiment analysis
- ✧ ...

# Pilot study: Swiss national elections 2019



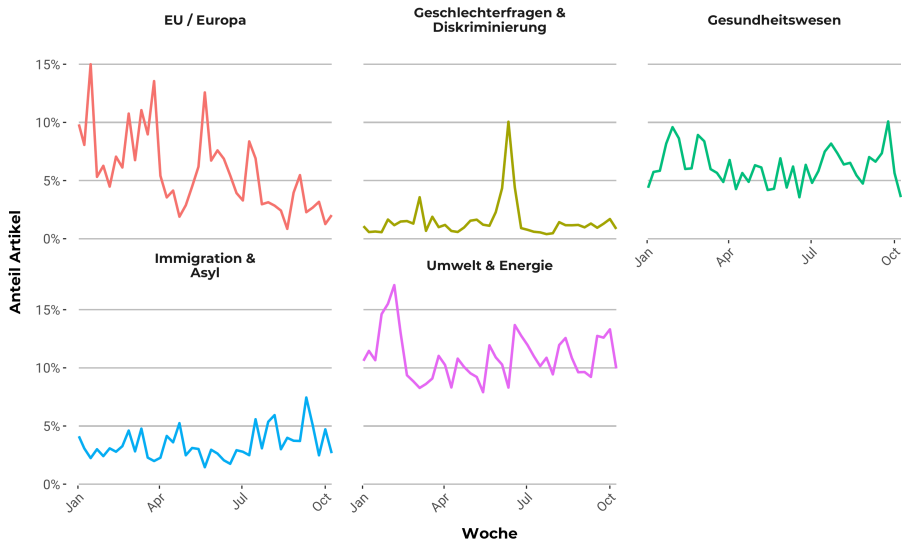
# Women candidates are underrepresented in the media

## Swiss national elections 2019

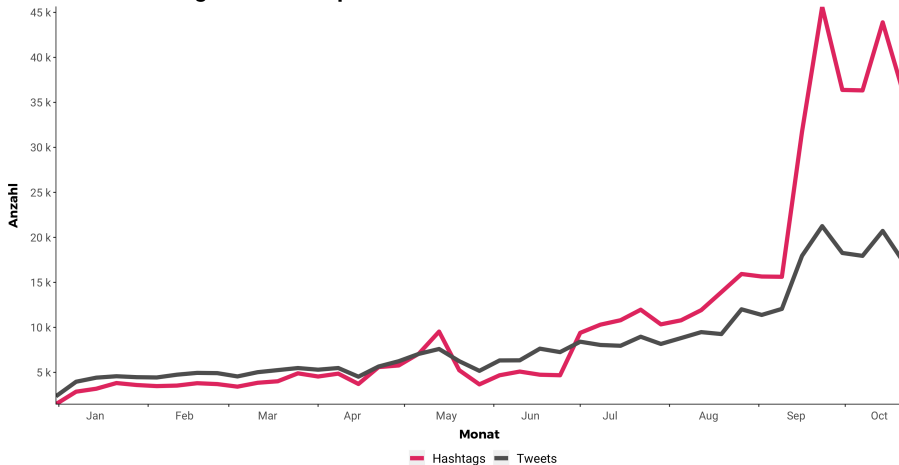


# Ausgewählte Themen des Medienjahres 2019

Anteil Artikel mit dem jeweiligen Thema pro Woche. Bei Artikeln mit verschiedenen Themen wird jeweils das dominante Thema verwendet. Anzahl Artikel: 176'815.



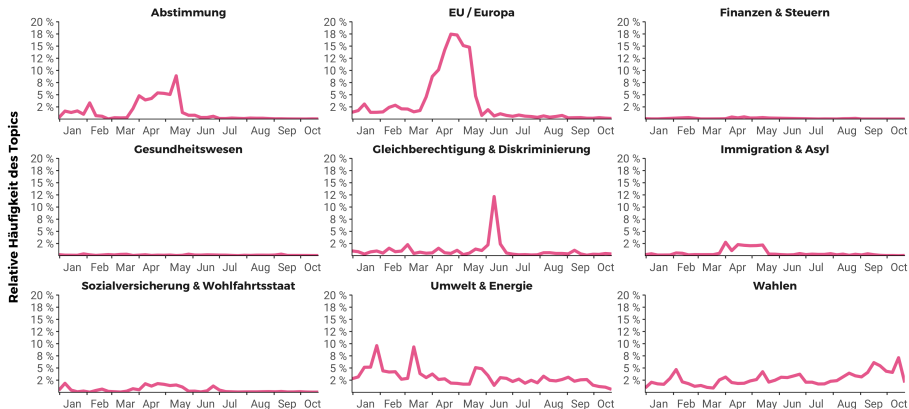
## Anzahl Hashtags und Tweets pro Woche:



Insgesamt wurden vom 01.01.2019 bis zum 27.10.2019 von den Kandidaten, Medien und anderen Personen 359'556 Tweets abgesetzt, von denen 47.22 % einen Hashtag enthielten

## Themenrelevanz in der schweizer Politik auf Twitter:

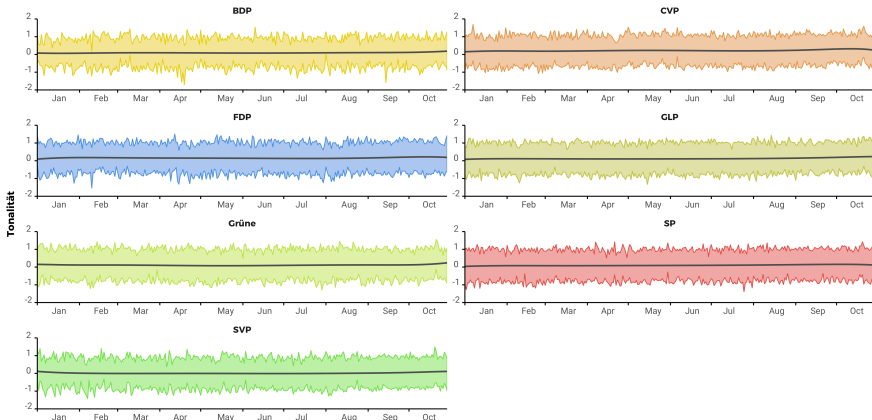
Dargestellt durch die Hashtaghäufigkeiten, passend zu den ausgewählten Themen vom 01.01.2019 - 27.10.2019



### Monat

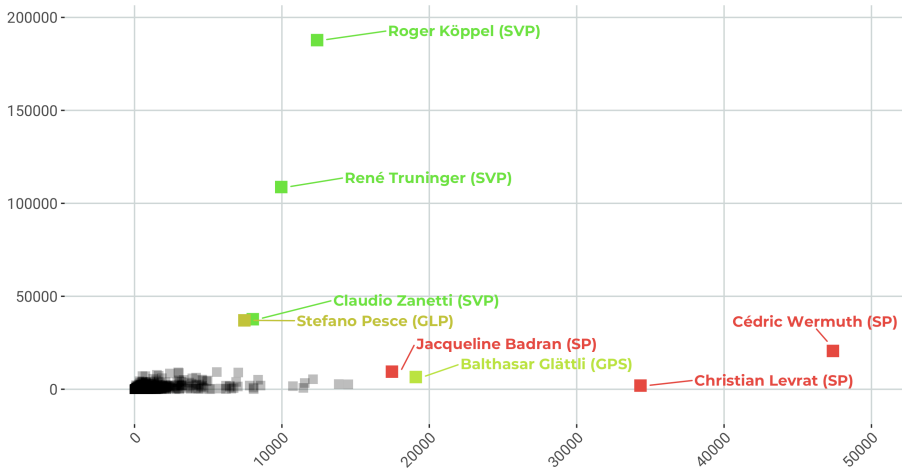
Von 359'556 Tweets enthalten nur gerade 47.22 % mindestens einen Hashtag. Die hier abgebildeten neun Themen kommen in 41'972 Tweets vor. Dies entspricht 11.67 % der Tweets. Die restlichen Tweets enthalten keinen Hashtag im Text.

## Verteilung der Tonalität auf Twitter über die Zeit:



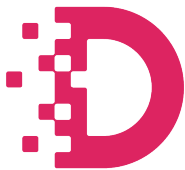
Der Erhebungszeitraum umfasst 265'974 Tweets vom 01.01.2019 bis 27.10.2019.  
Die Tonalität wurde mit der Formel von Proksch et al. (2018) berechnet.





# Next steps

- Basic research, within the DigDemLab
- Basic research, with cooperations
  - Technical, legal, and practical issues
  - Incentive structure
- Applied research (selectively)
- Community building
- Secure mid-term funding



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