



# Explorative German Political Ecosystem

## Social Media Mining

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# What to analyze

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## How do parties present themselves on twitter?

- 1 Which personalities do they portray?
- 2 What is their focus of communication?
- 3 Are they (in)consistent?

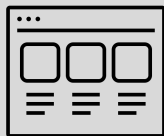
# Parties



Chart 3

# Components

## Concept



**Web platform**



**Visibility of the  
change process**



**interactive**

## Application



**web framework**



**backend**



**database**

## Visualization



**Bootstrap**

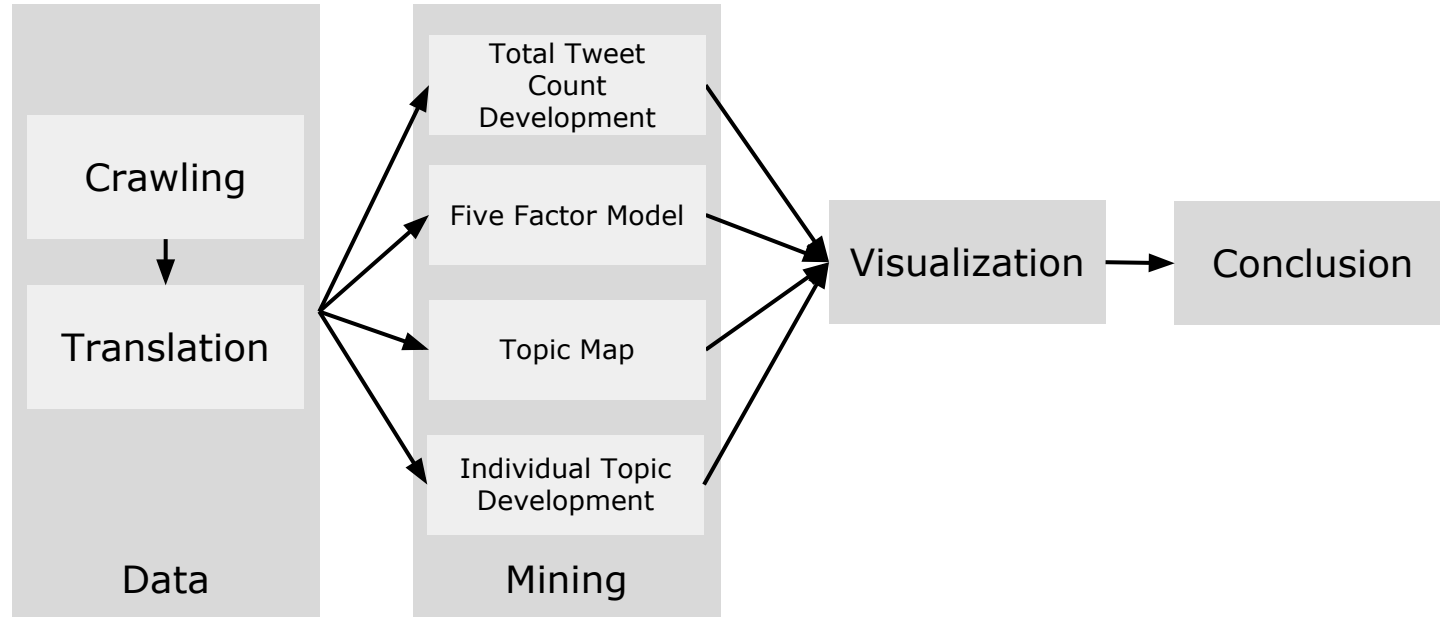


**chart.js**

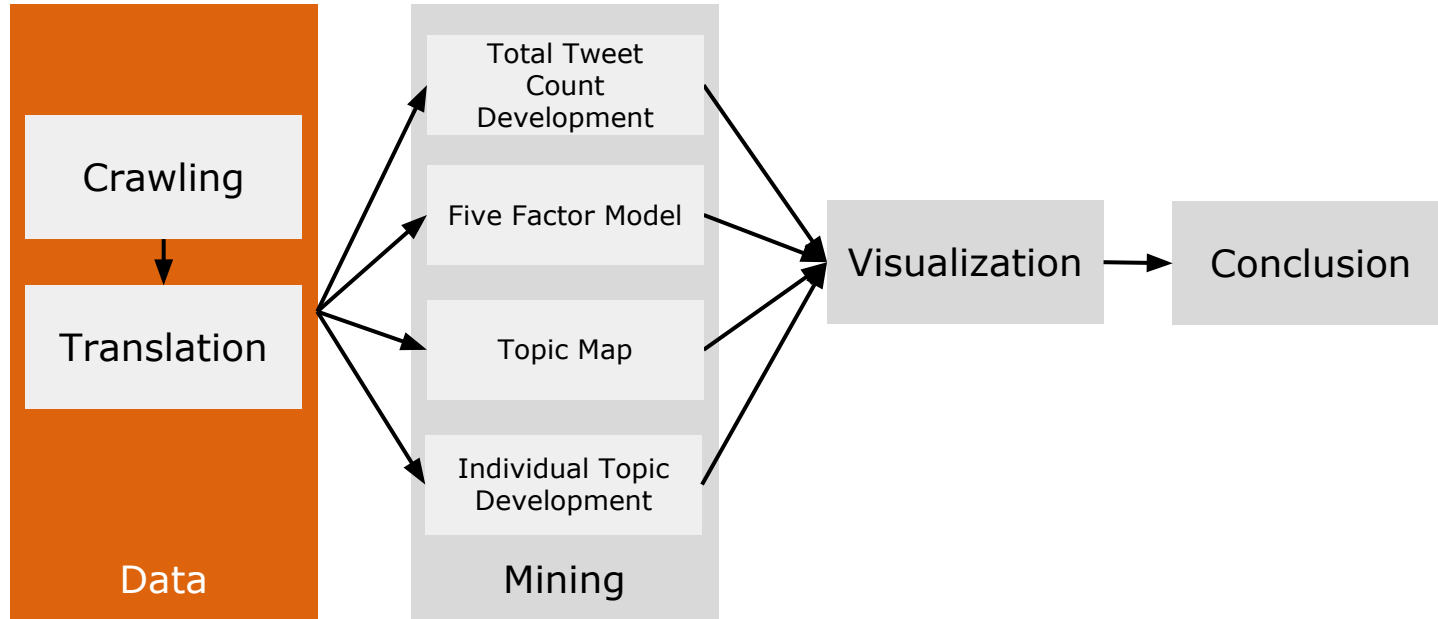


**am4charts**

# Pipeline



# Pipeline



# Crawling

## Twint

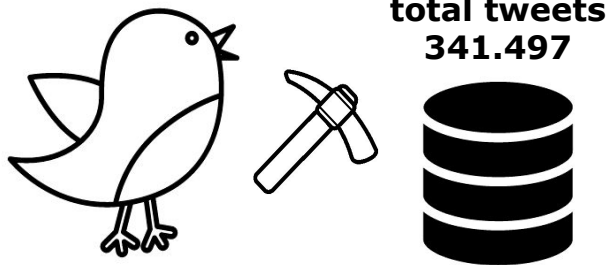
(<https://github.com/twintproject/twint>)

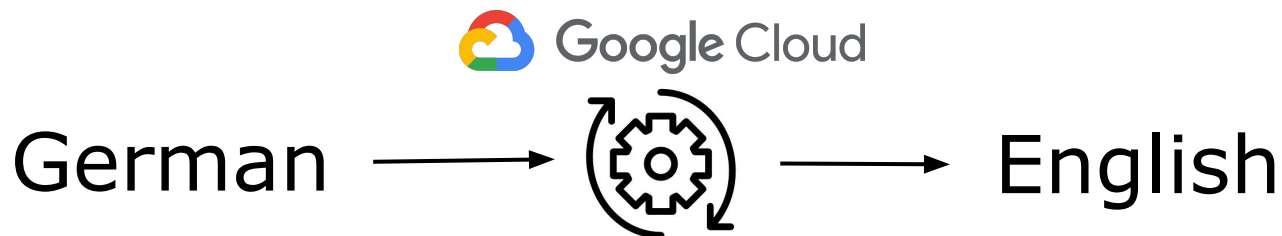
- without twitter API  
(anonymous)
- incomplete crawling
- no rate limits

## Tweepy

(<http://docs.tweepy.org/en/latest>)

- uses twitter API  
(twitter account needed)
- getting all tweets
- Limit: ~3000



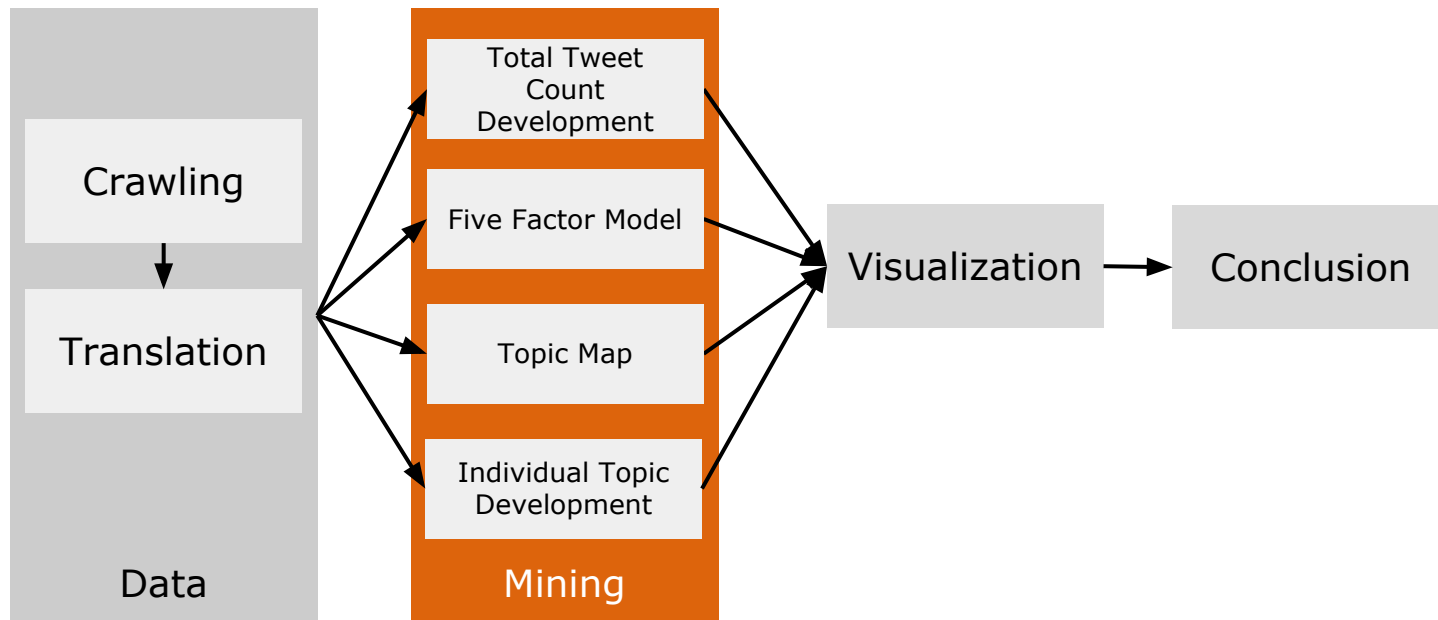


Insides:

- translating tweets with googletans/goslate isn't effective on a large amount of data
- range of powerful freeware translations apis is very small



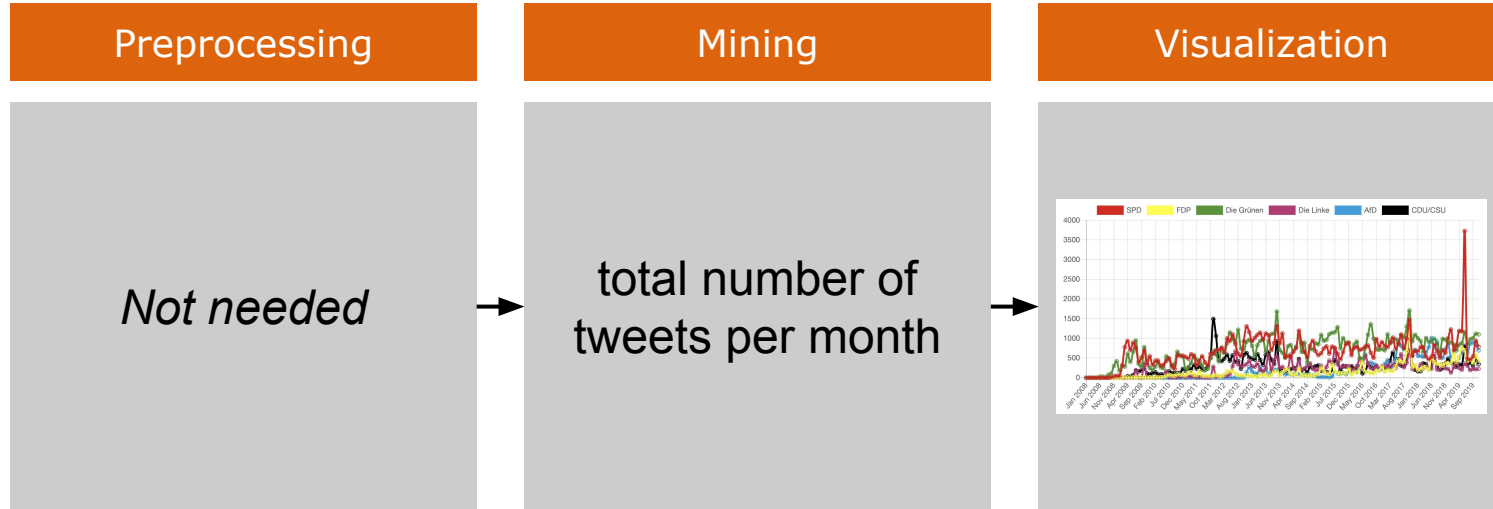
# Pipeline



# Total Tweet Count Development

## Purpose:

How has the tweet activity of each party changed over the time?



# Five Factor Model

*Purpose:*

Are there differences of the personality between the parties?

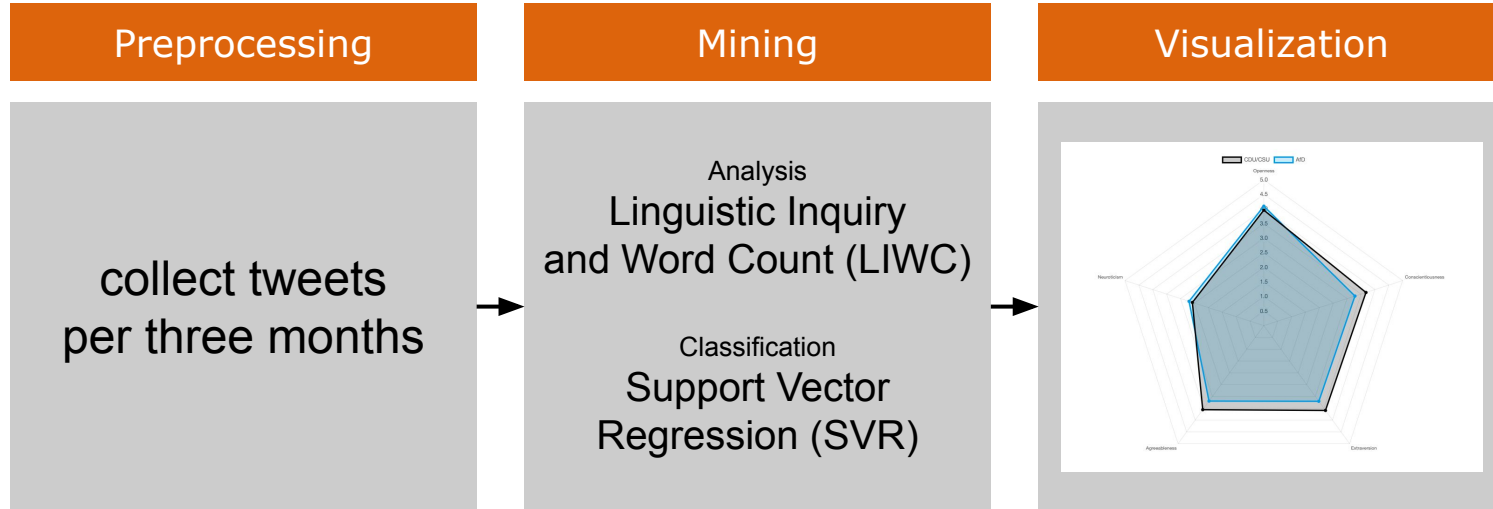
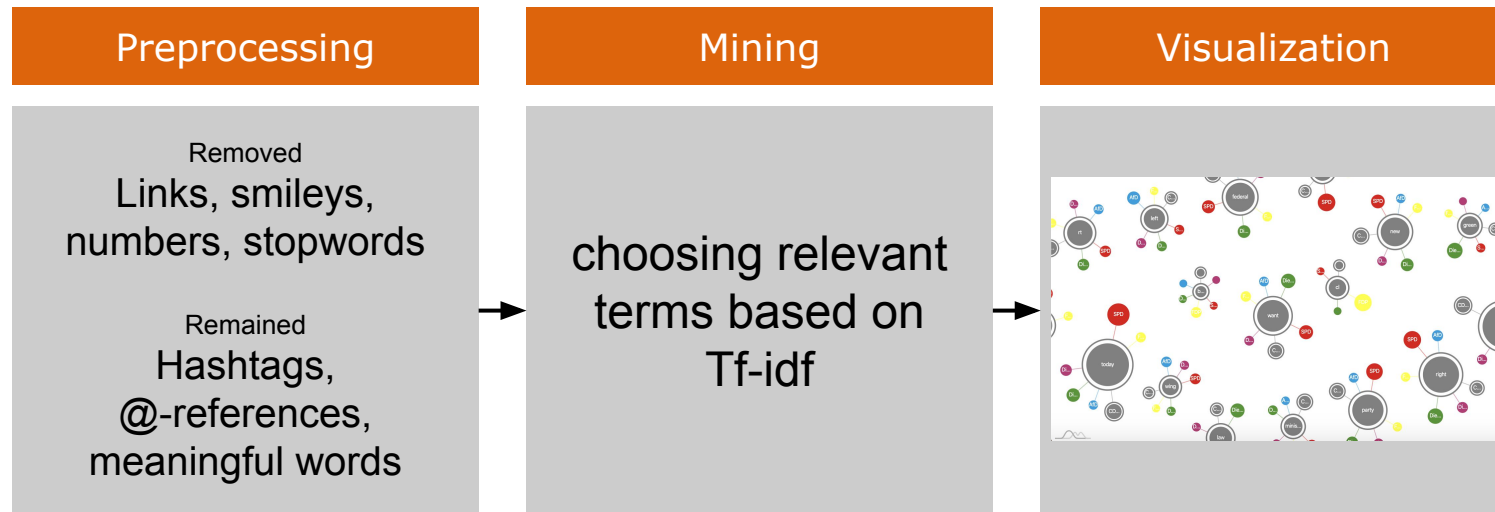


Chart 11

# Topic Map

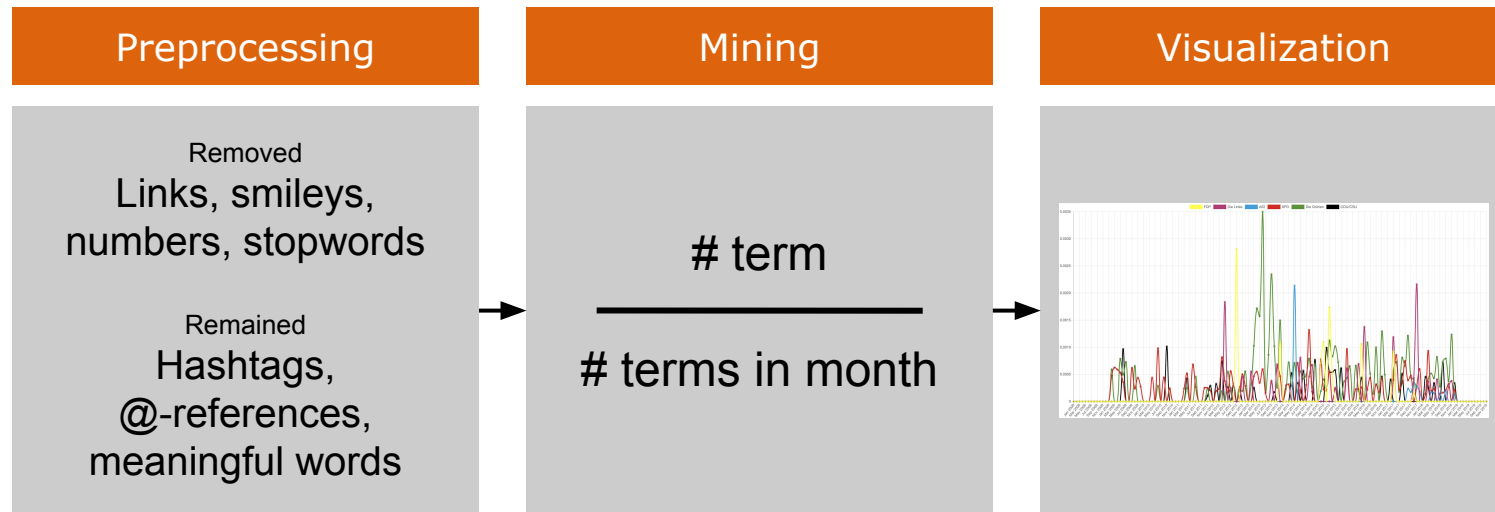
*Purpose:*  
What are the most-used terms?



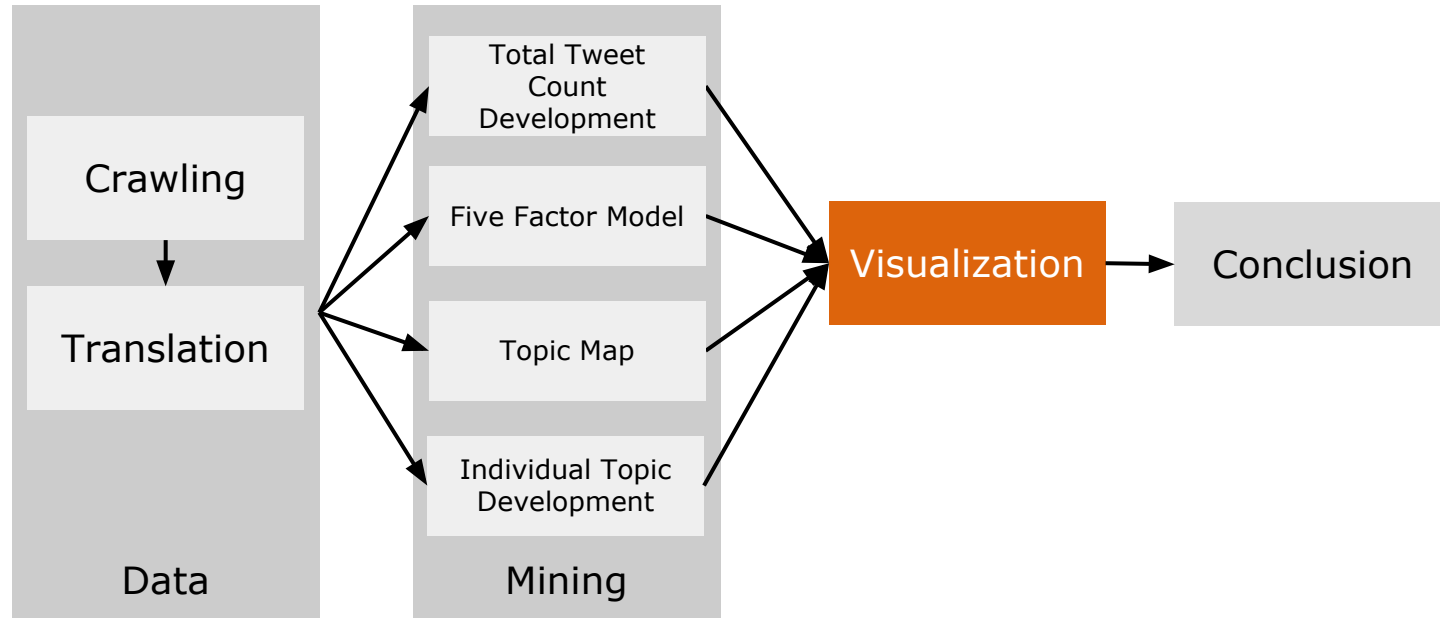
# Individual Topic Development

*Purpose:*

Depict how the importance of a term has changed over time.



# Pipeline

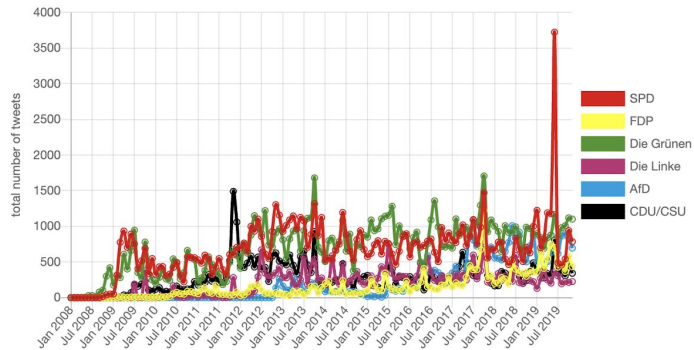


# Visualization



Aktuell sind die Jahre von 2008 bis 2020 ausgewählt.

Basics Five Factor Model Topics Frequency Topics Development Geolocation



## Christlich Demokratische Union Deutschlands (CDU)

@CDU, @akk, @JuliaKloeckner, @peteraltmaier

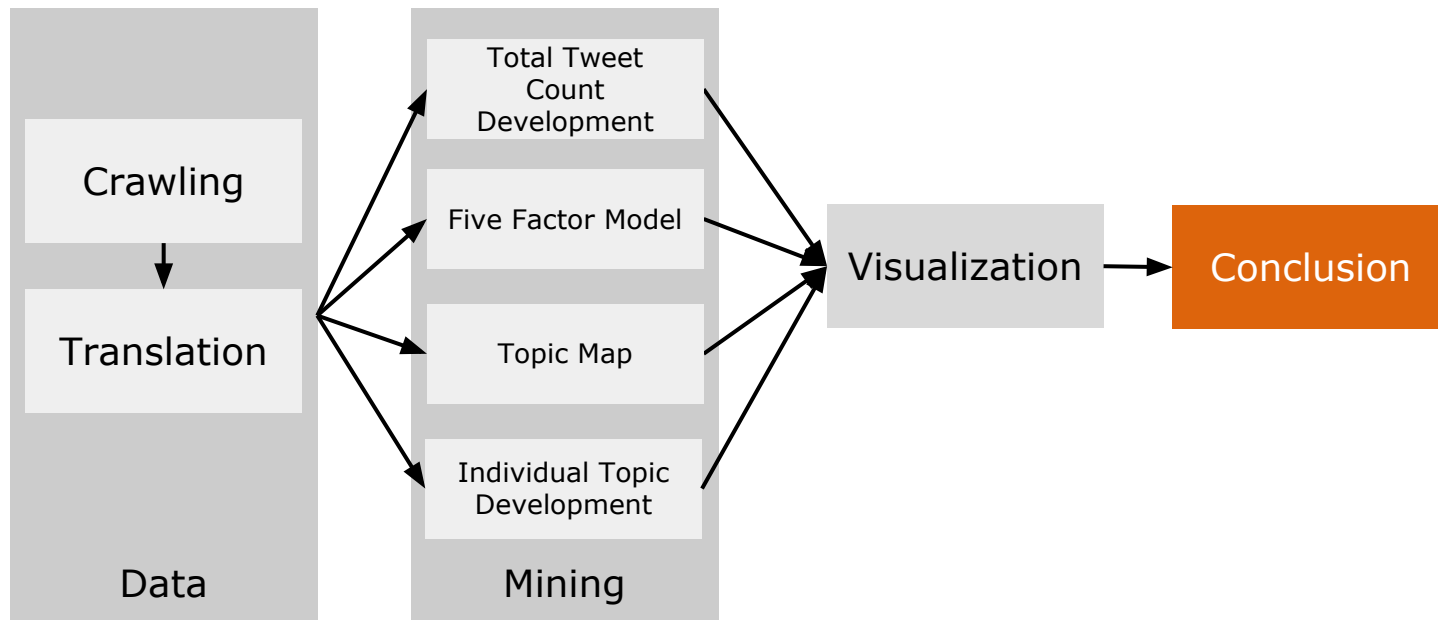
Founded on 26th June 1945 in Berlin

## Christlich-Soziale Union in Bayern (CSU)

@CSU, @AndiScheuer

Founded on 13th October 1945 in Munich/Würzburg

# Pipeline





# Focus of communication

- Track general popularity of terms
- Track party-specific popularity of terms
- Detect outliers through exploration

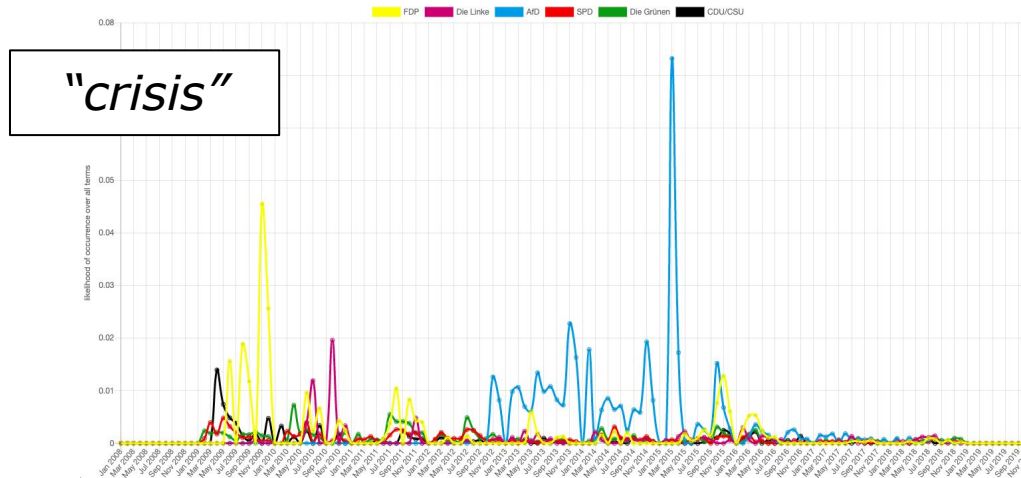


Chart 17

# Big five factor model

- no real differences between the personality traits of the parties
- Possible reasons:
  - translation might change true meaning of tweets
  - aggregation over time and accounts
  - model was trained on “normal” people accounts, now used for politics

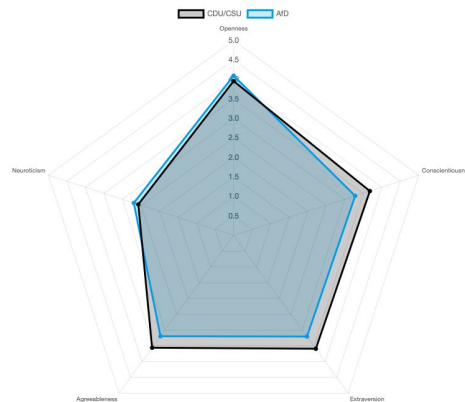
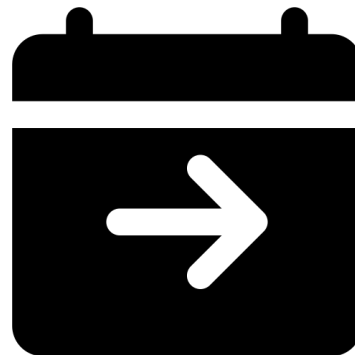


Chart 18

## Further work

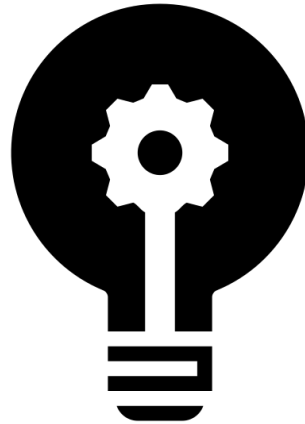
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- mine geolocation topics
- try different translation tools
- train model on german language
- use the tool to explore results from other sources on a visual level



# Summery

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**Thank you for your attention!**

Rachel Brabender, Oliver Clasen and Maximilian Götz

# Literature

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- [1] Stefan Stieglitz and Linh Dang-Xuan (2012): **Social Media and Political Communication - A Social Media Analytics Framework**
- [2] Sanne Kruikemeier (2014): **How political candidates use Twitter and the impact on votes**. In Computers in Human Behavior 34:131–139 (2014).
- [3] Sebastian Stier, Arnim Bleier, Haiko Lietz and Markus Strohmaier (2018): **Election Campaigning on Social Media: Politicians, Audiences, and the Mediation of Political Communication on Facebook and Twitter**. In Political Communication, Volume 35.
- [4] Sebastian Stier, Arnim Bleier, Haiko Lietz and Markus Strohmaier (2016): **The Mediation of Politics through Twitter: an Analysis of Messages posted during the Campaign for the German Federal Election 2013**. In Journal of Computer-Mediated Communication, Volume 21, Issue 1.
- [5] Stefan Stieglitz and Linh Dang-Xuan (2012): **Political Communication and Influence through Microblogging - An Empirical Analysis of Sentiment in Twitter Messages and Retweet Behavior**. 45th Hawaii International Conference on System Sciences.
- [6] Andranik Tumasjan, Timm O. Sprenger, Philipp G. Sandner and Isabell M. Welp (2010): **Predicting Elections with Twitter: What 140 Characters Reveal about Political Sentiment**. Proceedings of the Fourth International AAAI Conference on Weblogs and Social Media.
- [7] Thomas Elter (2013): **Interaktion und Dialog? Eine quantitative Inhaltsanalyse der Aktivitäten deutscher Parteien bei Twitter und Facebook während der Landtagswahlkämpfe 2011**. In Publizistik, Volume 58, Issue 2, pp 201–220.
- [8] Andreas Dusch, Stefan Gerbig, Mario Lake, Sabrina Lorenz, Fabian Pfaffenberger and Urs Schulze (2014): **Post, reply, retweet – Einsatz und Resonanz von Twitter im Bundestagswahlkampf 2013**. In Die Massenmedien im Wahlkampf.
- [9] Caja Thimm, Jessica Einspänner, Mark Dang-Anh (2012): **Twitter als Wahlkampfmedium: Modellierung und Analyse politischer Social-Media-Nutzung**. In Publizistik, 57(3), 293–313.