Research ideas for different APIs

Until next week, please add your names, formulate 2-3 more questions for an API of your choice and if possible add some details how that question would be answered using that API.

- Relevance (scientific, societal)
- Feasibility (costs etc.?)
- Example studies

Twitter API	
Research question	**Details**

Loosing interest: How has the activity of politicians evolved over time on Twitter? (Paul)	Descriptive statistics on politicians' use of Twitter of the last year + disappearance of accounts
Are there any changes in interest during the Ukranian war ?(Dana,Joana,Claudia,Jonas)	Sentiment analysis on keywords from tweets relating to specifically Ukranian-Russia war
Racism in Sports (Maybe Instagram API better)(Dana,Joana,Claudia,Jonas)	Hate speech detection regarding specific group's stereotypes
Public opinion on Global warming issue triggered by environmental activists (Meimingwei Li, Davide, Christian, Matteo)	Define a sentiment analysis pipeline using twitter with hashtags relating to environmental activists
What motivates voter movement (eg. Rep. to Dem. and vice versa)?(Sven)	Are there any topics or categories (e.g. environment, criminality) that motivates former voter of party A to switch to party B?
How does the Perception of the candidates and 'the system' change *after* the election outcome? (Louise, Minh, Zoe, Paul)	Are supporters of the losing side moderating the tone in which they talk about the winning side. Do supporters of Trump voice increased trust into the election, now that they won? How was either sides activity (frequency) affected
Ethical Debates and Global Sentiments on the Ban of Russian Women's Singles Figure Skaters from International Competition (Ziyu)	Examine the ethical debates surrounding the ban on Russian figure skaters from international competition. See how fans, media, and influencers react about fairness in sports and how the ban affects the athletes, particularly in a women's singles, where Russia has a historical dominance. We can also analyze the sentiment and frequency of discussions around Russian skaters and how the absence affects the global fanbase.

Reddit API	
Research question	**Details**
Which are the most discussed topics by people in forums?(Dana,Joana,Claudia,Jonas)	Topic Modelling+ Cultural differences regarding the responses
Is reddit less of an echo chamber? Check political attitudes on reddit vs eg twitter and the "balancedness" of arguments	Compare to twitter data (IRMC)
Toxic masculinity: how it changes over time (IRMC)	What do men ask on reddit? How "mean" are comments? Use r/adive or r/ratschlag and filter for gender by eg "m18" indicator. Whats concerning the age group, what topics are they interested in?
How does sentiment differ between prolife and prochoice communities when discussing key reproductive rights topics (IRMC)	Sentiment analysis on prochoice vs prolife subreddits
How are right-wing populist narratives spread and reinforced on Reddit? (IRMC)	Sentiment analysis and topic modeling in populist vs. mixed-opinion/left-leaning subreddits.

Mediacloud API	
Research question	**Details**
Impact media has on elections (Group 2)	Sentiment analysis regarding different scandals/past events on current stats/ election predictions
How does media coverage on femicides differ in Germany vs Greece? (IRMC) (could alternatively do this on social media APIs, by analyzing posts using hashtags)	Sentiment analysis of all news articles mentioning the word femicide, as well as a comparison of what percentage of all news coverage these articles make up.
. Immigration bias from media outlets in Germany (Group 2)(Dana,Joana,Claudia,Jonas)	How many immigrants are coming to germany after the news covered + to see if some region is more tolerant towards immigrants so reports would be less and in other regions everything can be blown out of proportion in some regions
How has media coverage on Greta Thunberg changed since she shifted from climate activism to political activism (in Germany?) (could alternatively do this on social media APIs, by analyzing posts using hashtags)	Sentiment analysis & word frequencies
Conspiracy theories: changing of conspiracy topics over time, pre, during and post covid (IRMC)	Compare with Twitter data: how much overlap are there between sources of very biased echo chambers (twitter) and

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	technically more neutral sources (IRMC)
Is there political bias in the media coverage of the movie "The Apprentice"? (Louise, Minh, Zoe, Paul)	Compare reviews or coverage on the movie "The Apprentice", a dramatization/biopic of the early career of Donald Trump, to see if political bias might affect how scenes that are less flattering are presented as facts/fiction.

Google Trends API

Research question	Details
Impact of TV and Movie Releases on Original Book Sales and Ratings. (Ziyu, Fanni)	Track search interest for the book title around adaptation release dates. This can be a proxy for increased public interest driven by the adaptation. [Problem: How to distinguish between trends on movies and on books]
Are brands getting less attractive when presented on aggressive youtube advertisements?	In recent years, youtube ads got more and more aggressive. Do people now associate negative emotions with the brands on such ads, both explicit ("cheap", "throwing out money", "low quality ads") and implicit (annoyance, anger at interruption) (IRMC)
Impact of the overturning of Roe v. Wade on Google searches in US states (Louise, Minh, Zoe, Paul)	Comparison of Google searches in states where abortion is illegal post supreme-court ruling on Roe v. Wade in 2022, compared to states where abortion is still legal.
Candidate popularity and outcomes (USA)	Does a higher search interest for a candidate in specific states correlate with their performance in those states?
Event impact analysis on USA elections	Do major campaign events or debates significantly influence search trends and the outcome?
How does the interest in current wars differ, which wars get the most attention, how do they interact with each other	Some wars get significantly more coverage, why is that, does it depend on the side a county supports
Difference in questions being asked before vs after ChatGPT release (Christian, Davide, Meimingwei, Matteo)	We are interested in checking whether the questions that people look up on Google have changed in nature ever since ChatGPT got released to the public (late 2022). We would check this by using a topic modeling approach.

Google Places API	
Research question	**Details**
Doctor places (IRMC)	
Coffee places linking to sqrmeter prices -> claim: when coffee places are increasing, the sqrmeter price will rise (IRMC)	
Satellite data: checking time variance of infrastructure (IRMC)	Use google places to examine the emergence of big factory complexes and their impact on local communities
Climate change before and after catastrophes (IRMC)	Use satellite images of places affected by climate catastrophes, war, etc., before and after the critical event took place. The social question of interest would depend on the situation that is analysed.
Do the neighborhood characteristics influence the user's reviews of bars/shops? (Dana,Joana,Claudia,Jonas)	

Youtube API	
Research question	**Details**
How does the content/activity of certain channels (upload frequency) influence the engagement of users (comments, likes, subscription)? (Dana,Joana,Claudia,Jonas)	
How does the engagement of users (comments, likes, subscription, watched time of a video) influence the growth of a certain channel? (Dana,Joana,Claudia,Jonas)	
Do comment sections of viral versus non viral youtube videos (on some socially controversial topic) differ, and if yes how?	

ChatGPT API

Research question	Details
Does ChatGPT properly understand and explain statistical graphs? (Paul, Sebastian)	

Amazon Product Advertising API

Research question	Details
Impact of TV and Movie Releases on Original Book Sales and Ratings. (Ziyu, Fanni)	Track book sales rank over time, ideally capturing changes around adaptation release dates. Amazon also offers aggregate review data which could be useful in sentiment analysis.

IMDB API

Research question	Details

Impact of TV and Movie Releases on Original Book Sales and Ratings. (Ziyu, Fanni)	Use IMDb data to verify adaptation release dates, which helps in aligning these dates with spikes in book sales or changes in ratings. We can also test if the rating of a movie has something to do with change in book ratings (maybe a bad movie can improve book ratings).