Foreign Interference and Social Media

2023 CANIS Hackathon: Data Visualization and Foreign Interference

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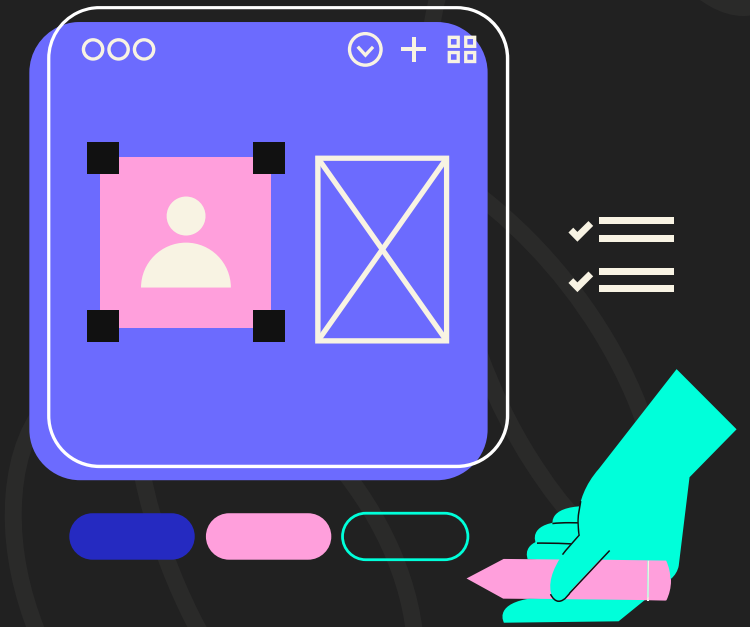

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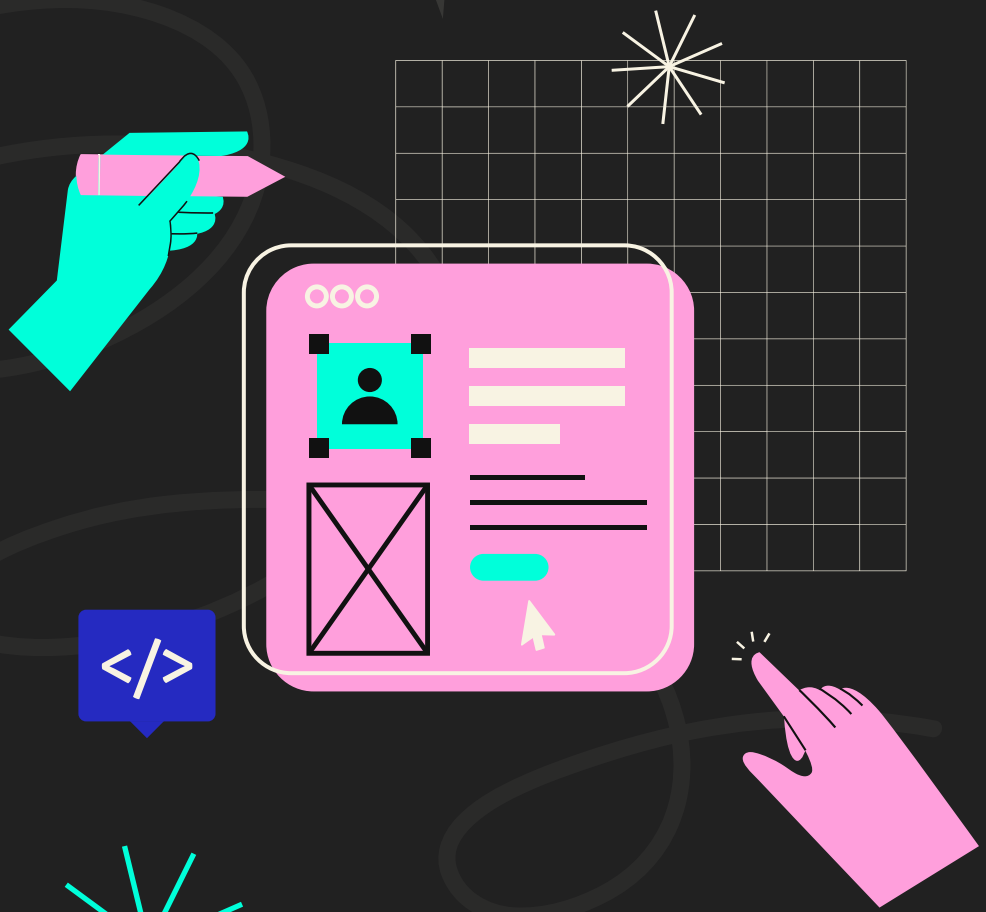


Part 1

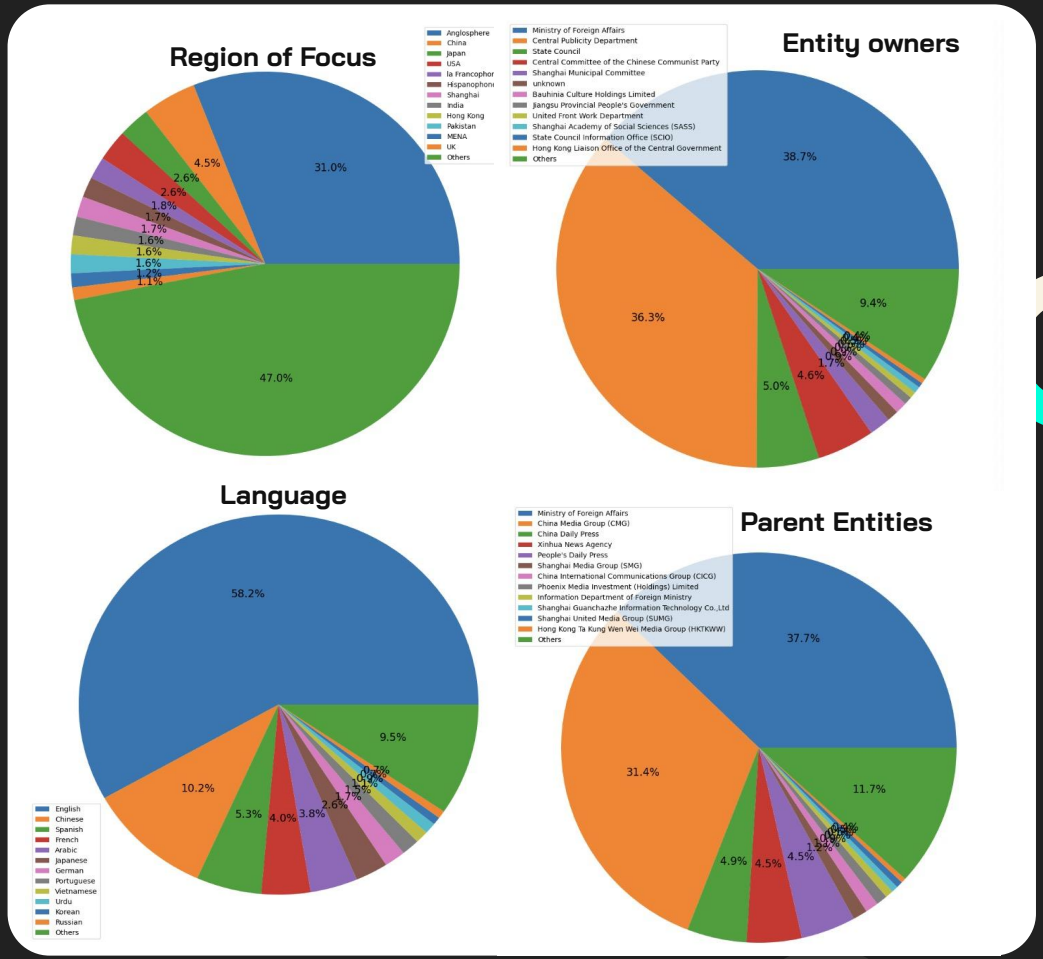
Looking at the whole dataset

- Cross-Regional Study
- Cross-Platform Study
- Cross-Entity Type Study

Explore: Comparing Parameter Distributions

1. Mainly focused on Anglosphere(31%) and all others are spread out evenly.
2. 58.2% of languages are in English which is higher percentage of anglosphere.
3. Entity owners and parent entities are dominated by major holders.

These findings motivated the studies following this page.

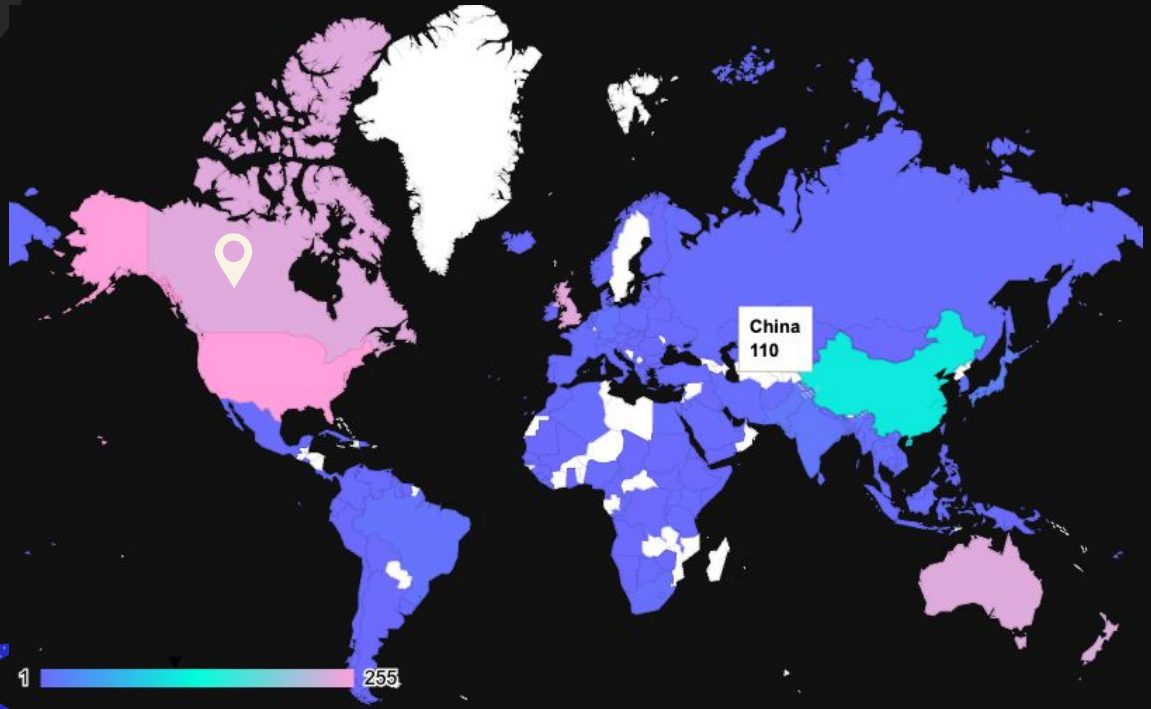


Section 1

Cross - Regional Study

Cross Regional Study

Region of Focus on Map



The map illustrates the region of focus of the accounts. Major english speaking countries such as Canada and USA are very focused.

Surprisingly, only 110 focused on China.

“Canada is one of the most targeted countries”

*Note: For regions that consists of many countries, the count is added to all member countries.

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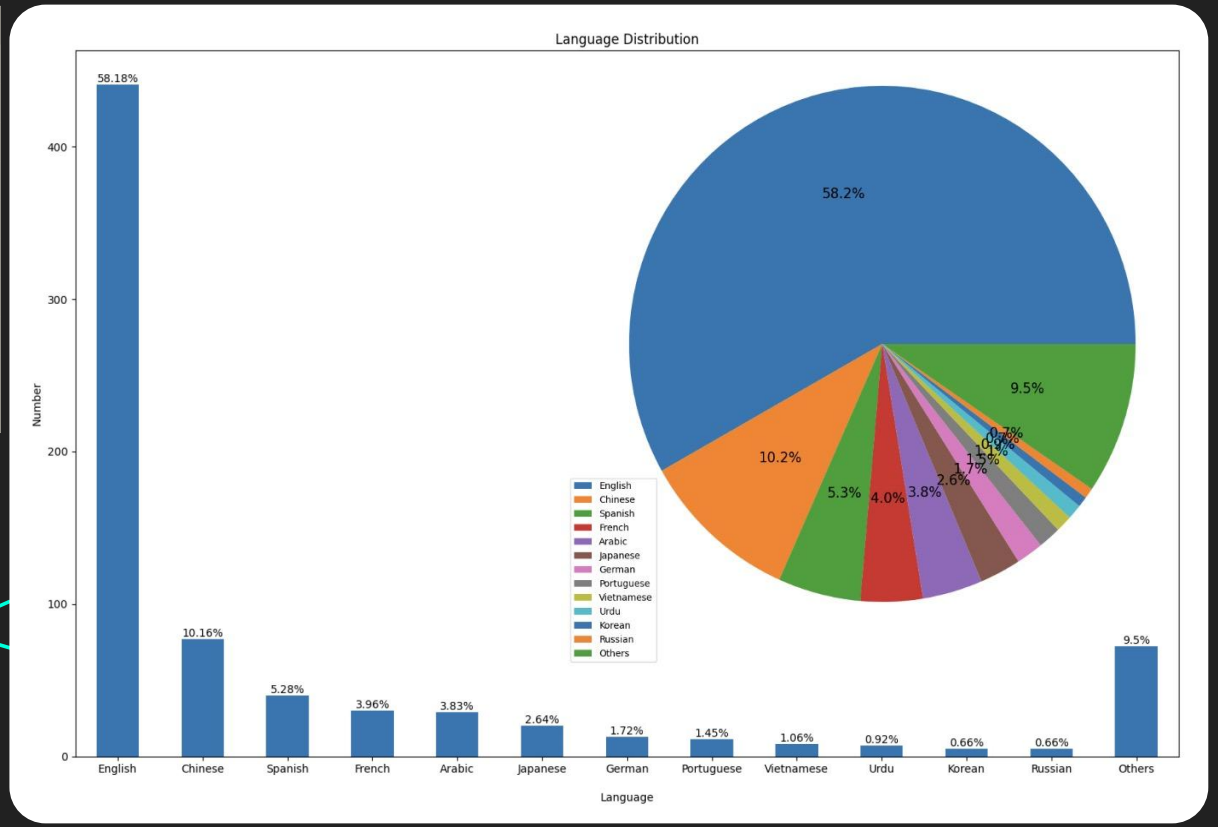
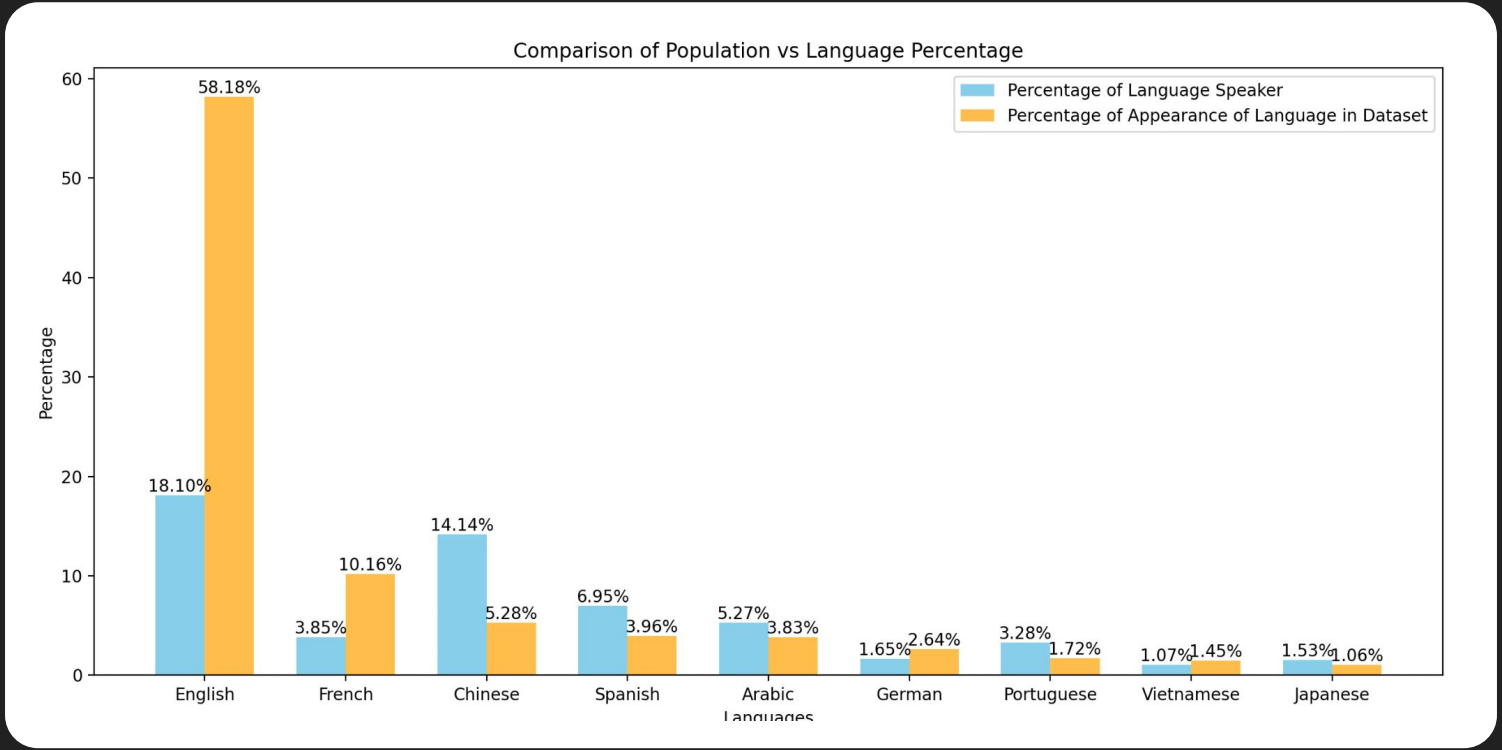
Language Distribution



- Figure shows the distribution of the top 12 languages, and other languages collectively as “others”.
- Majority of the accounts use English(58.2%) or Chinese(10.2%).

“English is the most popular language”

Cross Regional Study - Population



The bar plot illustrates the language preference demonstrated by accounts within the dataset.

Speaker Ratio v.s. Language Ratio

English

English exhibits a significantly higher appearance percentage of **58.18%** compared to its proportion of speakers worldwide - **18.10%**.

Chinese

Approximately **14.14%** of the population speaks Chinese, only **5.28%** of the accounts utilize Chinese for their posts. While Chinese is widely spoken in China, the social media platform might aim for diverse audiences, leading to a lower use rate of that language.

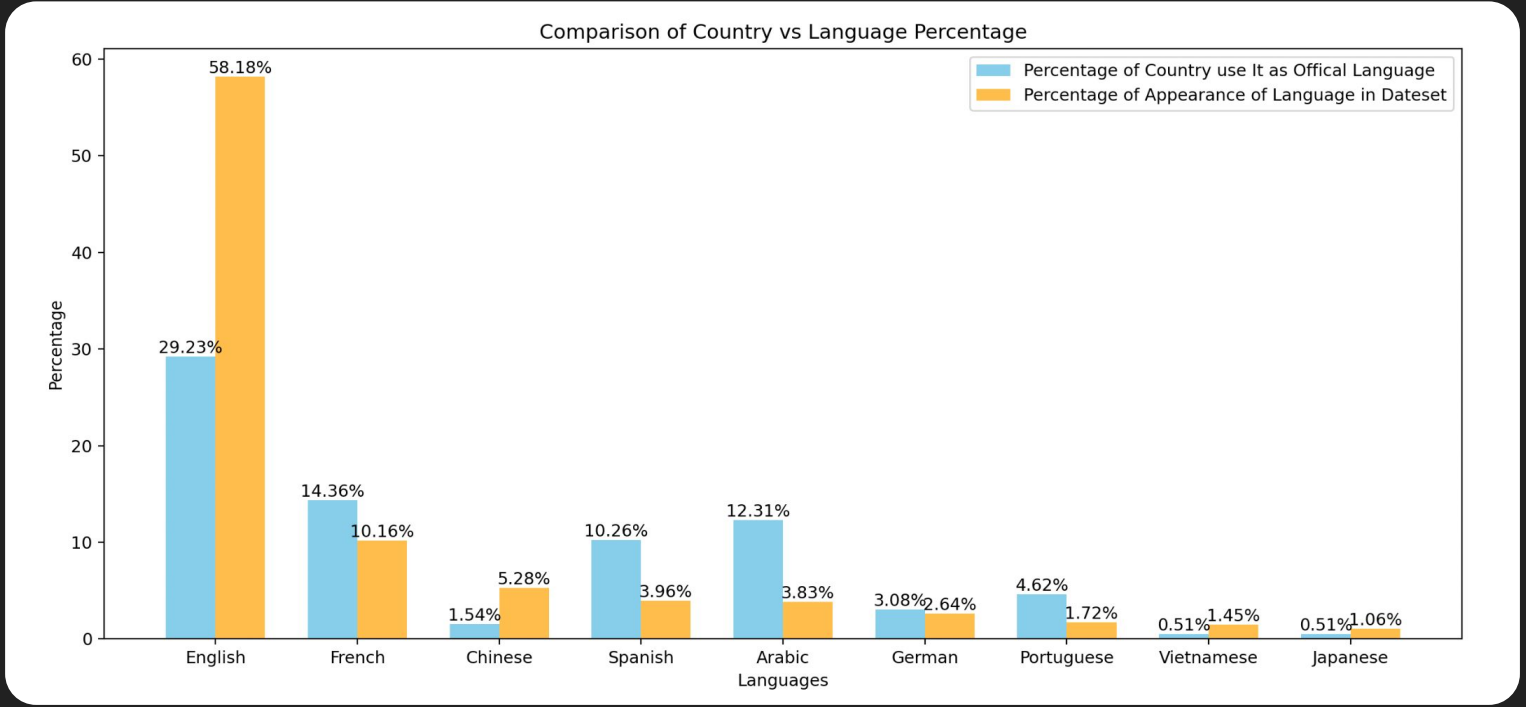
Why English?

This finding suggests a prevalent preference for English in social media accounts. One possible reason might be the widespread adoption of English as a **lingua franca,** facilitating broader communication.

Other Languages?

Most other languages in the dataset appear **consistent** with the proportion of speakers, suggesting a close alignment number of speakers and number of target audiences.

Cross Regional Study - Official Language



The presented bar plot contrasts the ratio of languages used as official languages with their frequency of appearance in the dataset.

Official v.s. Account Language

Chinese

Chinese, spoken in only **1.54%** of the world's countries, reflects a comparatively limited global presence. This sheds light on why Chinese isn't as extensively utilized on certain social media platforms, despite originating from China. While widely spoken, Chinese may lack the same global outreach or adoption as languages like English.

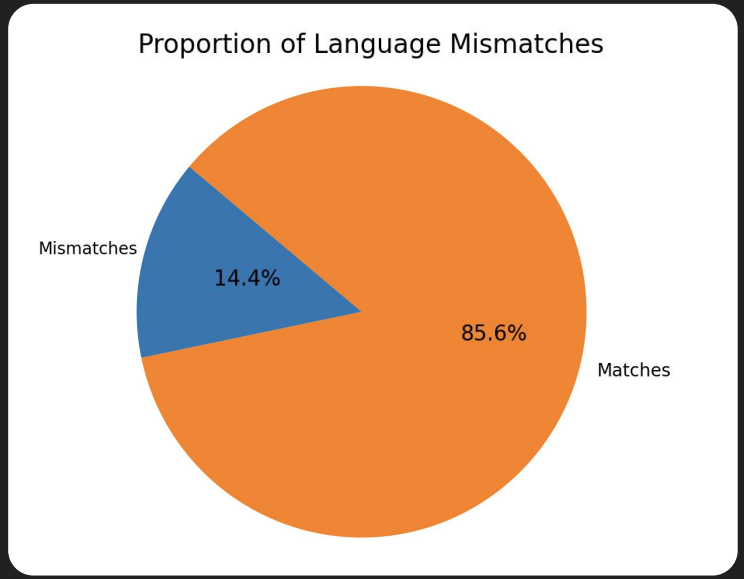
English

English serves as an official language in **29.23%** of countries, surpassing the proportion of English speakers seen in the previous graph. Many nations integrate English into their educational systems and international engagements. The prevalence of English in formal or business communication potentially explains its higher usage on social media and subsequent representation in the dataset.

French

Despite fewer speakers, French remains an official language in numerous countries. Its significance might stem from historical, educational, or cultural factors, making it preferable in specific contexts or industries. This likely contributes to its notable presence in the dataset.

Cross Regional Study - Mismatch



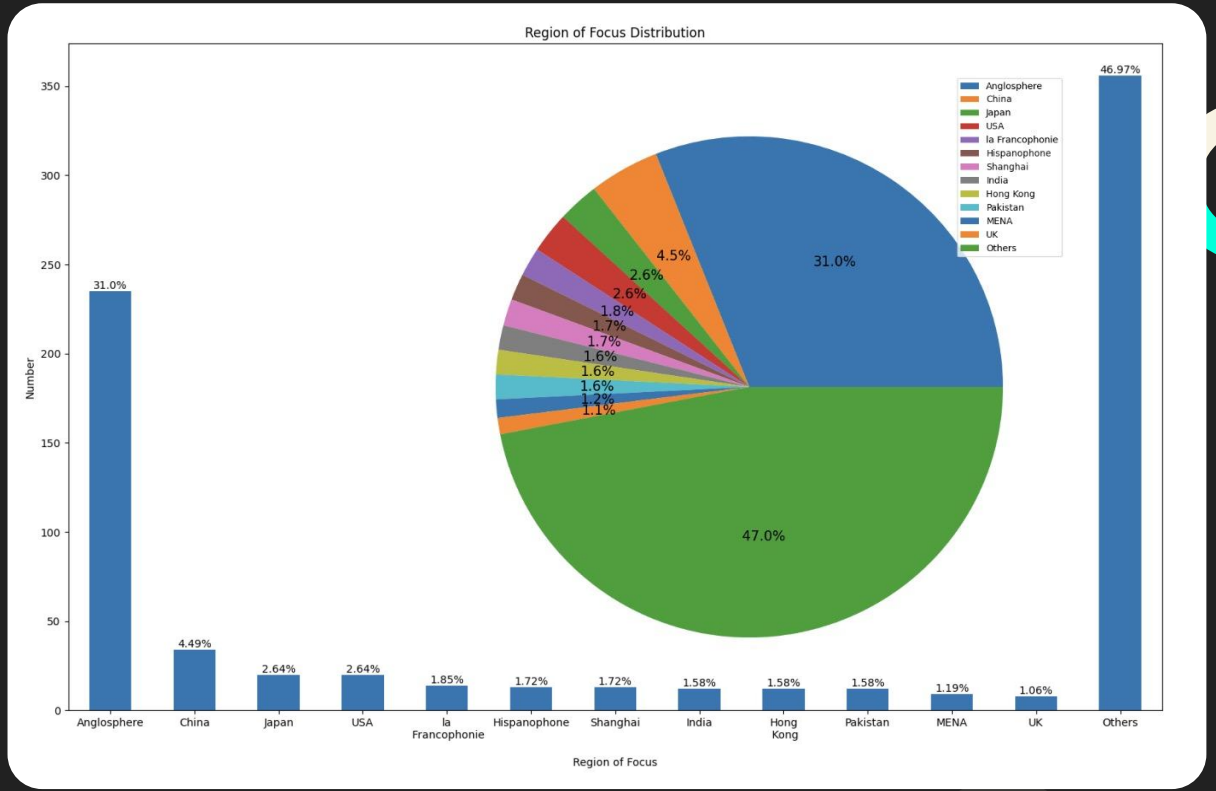
The pie chart illustrates the language preferences of various media outlets about the focus of their region.

- A significant majority, **85.6%**, have chosen to publish their social media content in the official language of the region they are focusing on. This suggests a strong alignment with the local linguistic context, potentially enhancing accessibility and relevance to their primary audience. In contrast, the remaining
- **14.4%** of media outlets have opted to use a language different from the official language of their target region. This decision reflects a strategy to reach a broader international audience or to cater to specific demographic groups within the region that prefer a different language.

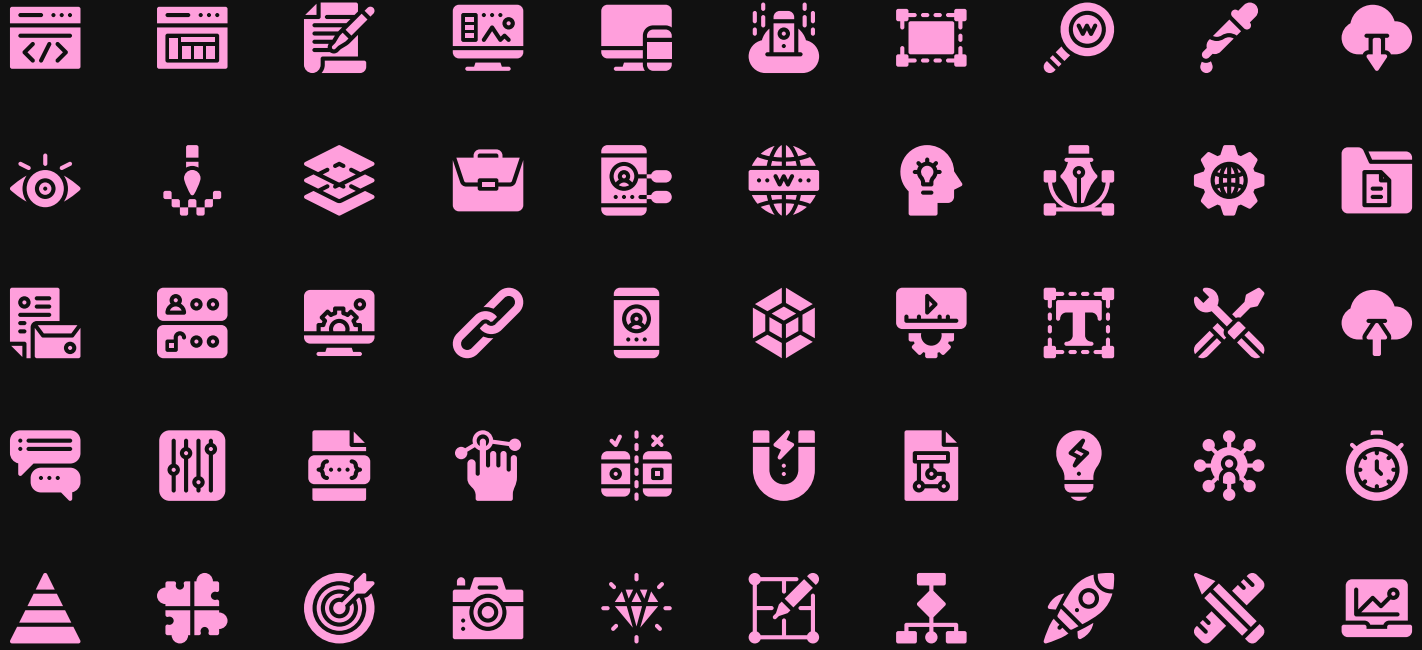
Region of Focus Distribution

- Figure shows the **top 12** regions of focus and other regions collectively as “others”.
- Anglosphere is the primary focus with **31.0%,** reasonable because there are many anglosphere countries.
- “Other” is very large(**47.0%**), indicating that despite significant Anglosphere, the accounts focus on a variety of regions, each has small proportion.

“Anglosphere is the most focused region”



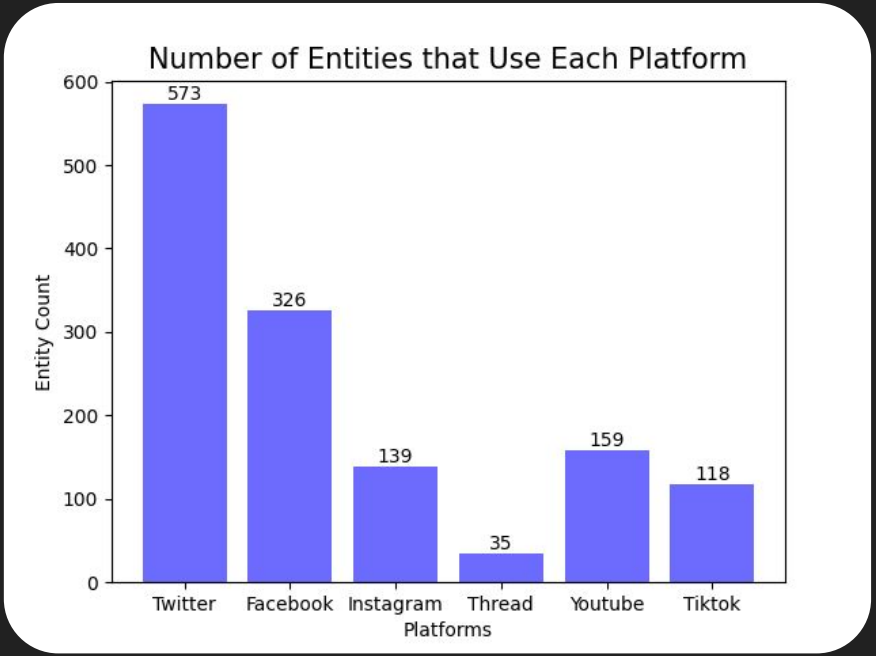
Icon pack



Section 2

Cross - Platform Study

Cross-Platforms Study



- **573** entities featured in the data set have established Twitter accounts, which is **75.6%** of all.
- Only **35(4.6%)** use Threads - least popular social media among the 6.
- Suggests that the study of foreign interference should emphasize more on platforms such as twitter and facebook.

“The Most Used Platform is X(Twitter)”

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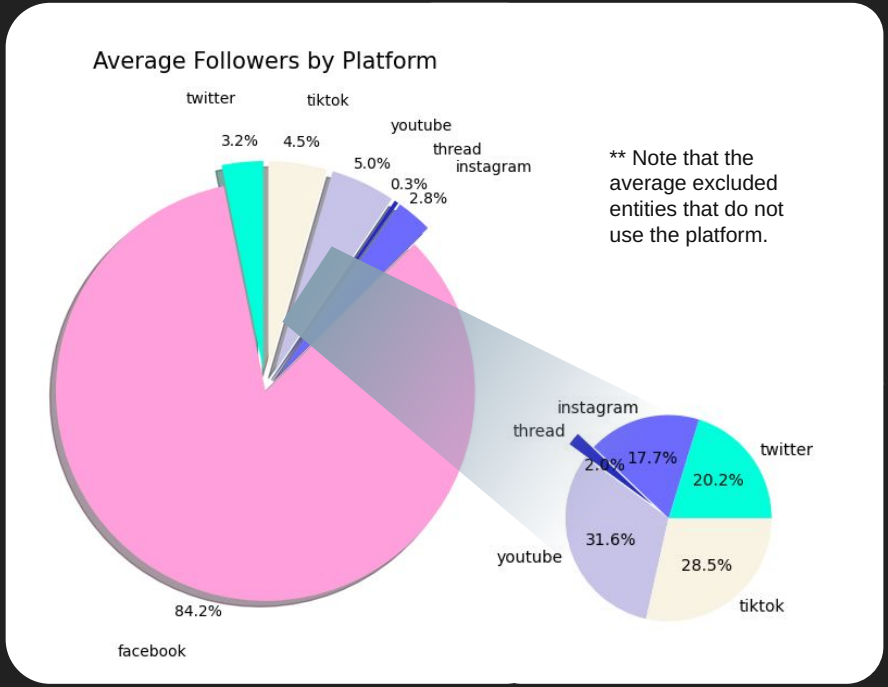
Cross-Platforms Study

- Despite the fact that most entities use Twitter, the popularity by followers count gives **different result.**
- Taking the average number of followers of all accounts of each platform, we see that facebook has **84.2%** of the followers/subscribers.
- Suggests that **close monitoring of facebook** would also help on studying foreign interference as these accounts may have more engagement compared with twitter.

“The Most Followed Platform is FaceBook”



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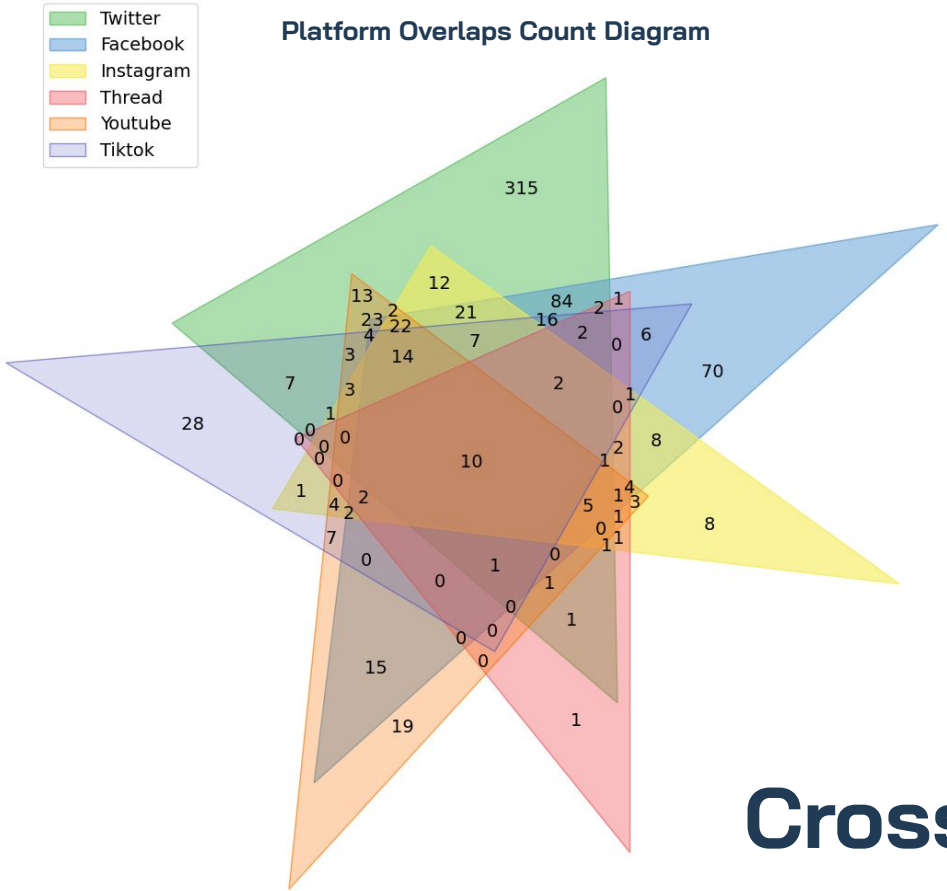


10 Users That Are on All Platforms

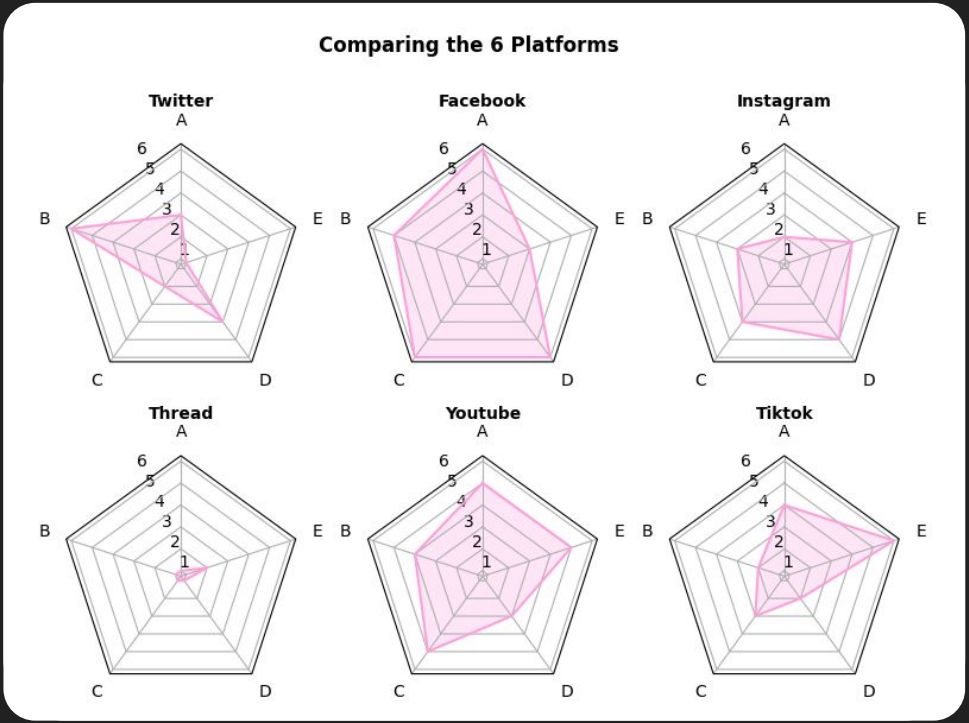
1	Yang Xinmeng (Abby Yang)
2	China Daily
3	iChongqing
4	iPanda
5	Zang Shijie (Jessica Zang)
6	Li Jingjing
7	Miao Xiaojuan
8	People's Daily
9	Li Yimei (Vica Li)
10	Where Zhengzhou

We found that there exist 10 entities of which accounts are established on all 6 platforms. This suggests that there is strong motivation for posting contents on a variety of social medias.

Cross-Platforms Study

Yinuo Zhao

Cross-Platforms Study



A. Average Entity Followers(Million)
B. Entity Counts(Million)
C. Total User(Million)
D. Daily Active User(Million)
E. Annual User Growth Rate

	Total User	Daily Active User	Annual Growth Rate
Twitter	528.3	237.8	-1.00
Facebook	3049	2037	+3.08
Instagram	2350	990	+5.47
Thread	137	10.3	N/A
Youtube	2780	122	+10.61
Tiktok	1060	47	+16.02

*Note that the annual growth rate of Threads is not yet available as the platform is released in July 2023.

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Cross-Platforms Study

- Combining the Entity Counts and Average followers from the previous analysis, as well as the amount of total user, daily active user and annual growth rate, the radar plots compare the 6 platforms together. The platforms are ranked from 1-6 on each criteria, in ascending order (i.e. larger number larger rank).
- By looking at the **shaded area** of the radar plots, we see that **Facebook and Youtube** are perhaps the two most concerning social medias in terms of foreign interference.
- Both of them have relatively **large number of entity accounts and followers**, huge number of **total user** and daily active user, and high user growth rate. All of which gives higher exposure to the contents being posted.

“Overall Most Influential Platforms are Facebook and Youtube”

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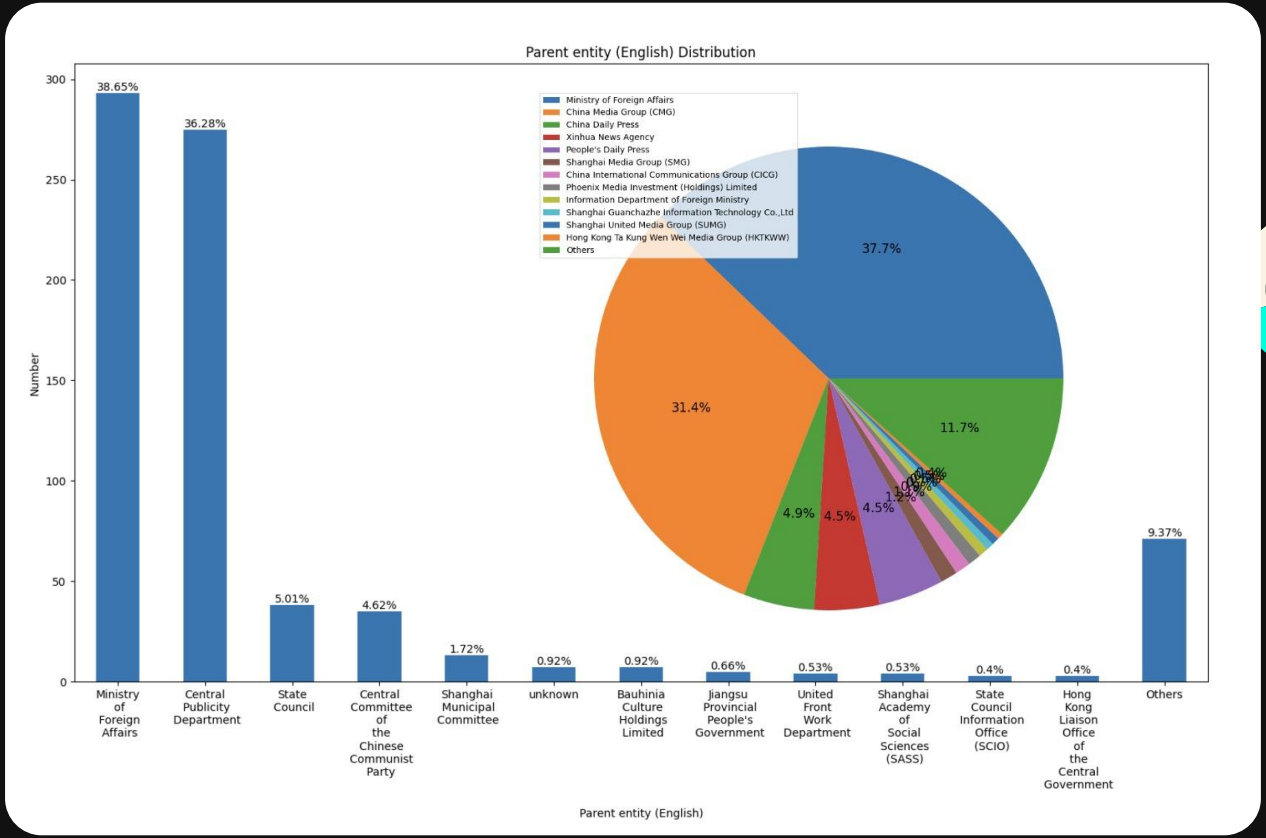
Section 3

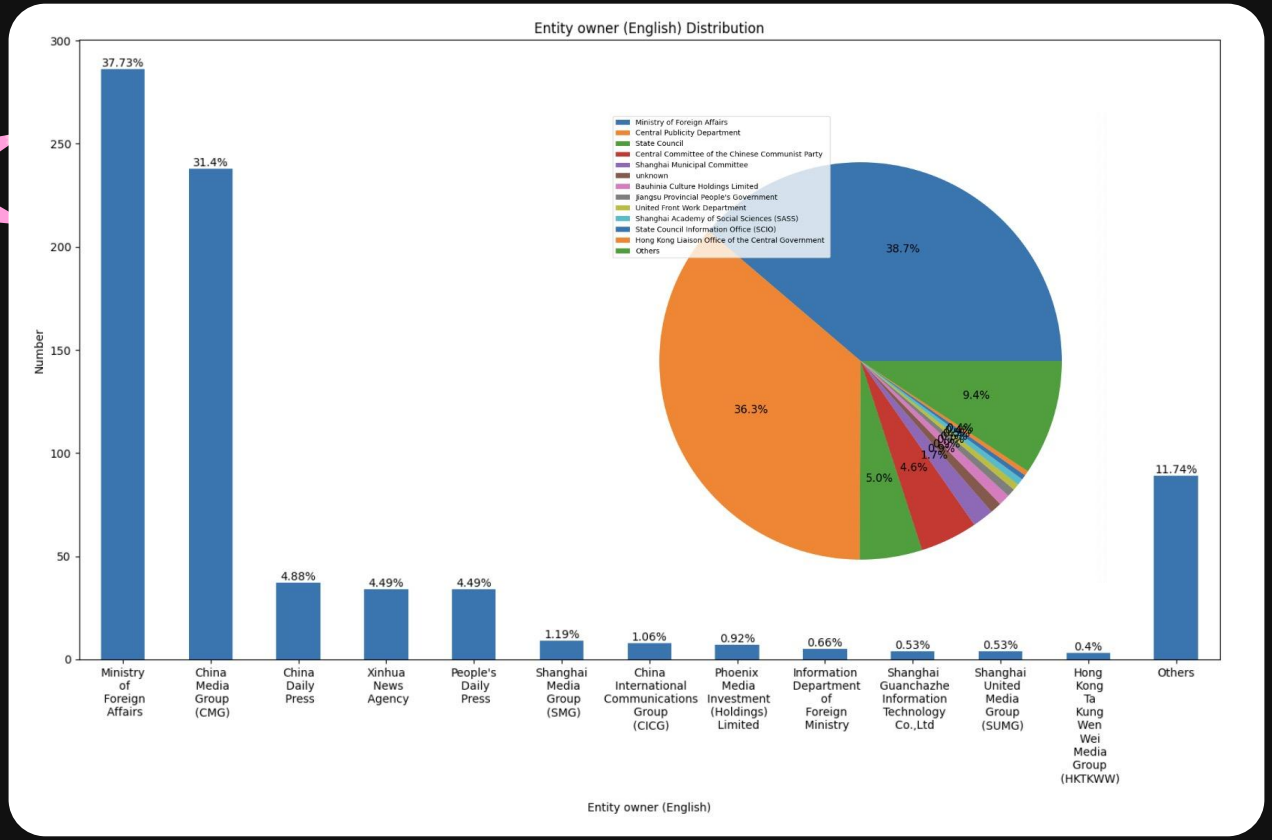
Cross - Entity Type Study

Who has the Control?

The Media Outlets are Mainly controlled by 2 entities: **Ministry of Foreign Affairs** and **China Media Groups**

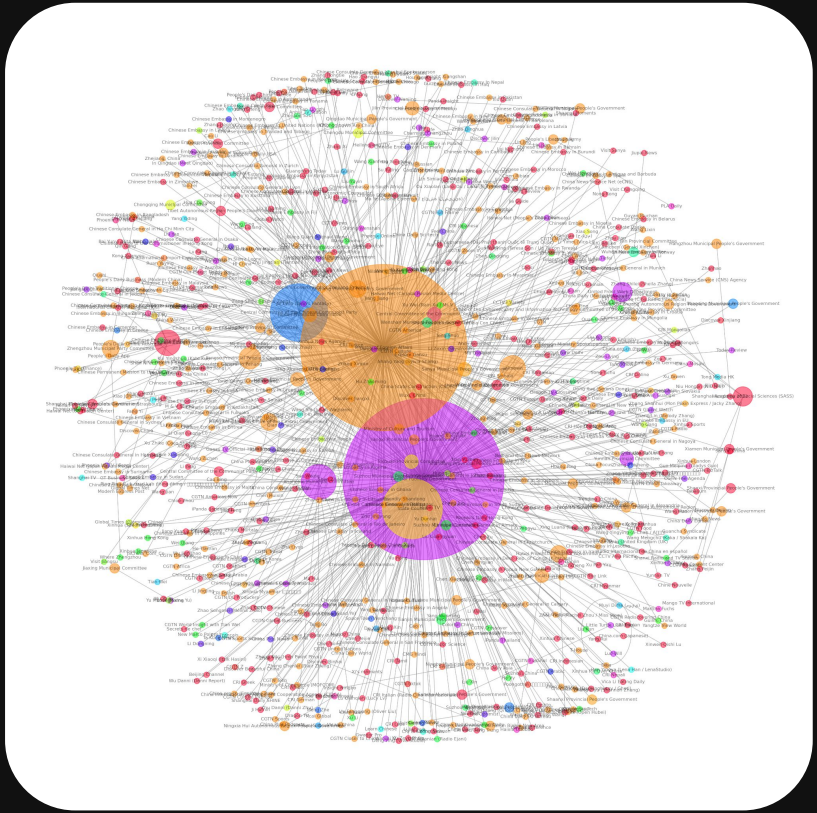
This suggests further study on the two groups which we investigated in section 5.





Who's the Owner?

Dominated by **the Ministry of Foreign Affairs** and **Central Publicity Department**.



Network Graph of parent entities and their accounts

- Different colors represent accounts from different parent entities
- Area of parent shows how many accounts it holds, the larger the size the larger the area

Recap: Significance of Part 1

1. Chinese media emphasize platforms such as **Twitter, Facebook** and **Youtube** though cross-platform usage is popular

2. China media on twitters are mostly targeted in **Anglosphere** areas including Canada, and the posts in mainly in **English**

3. Most Chinese accounts are controlled by **Ministry of Foreign Affairs** or **Central Publicity Department** or **China Media Groups**

Part 2

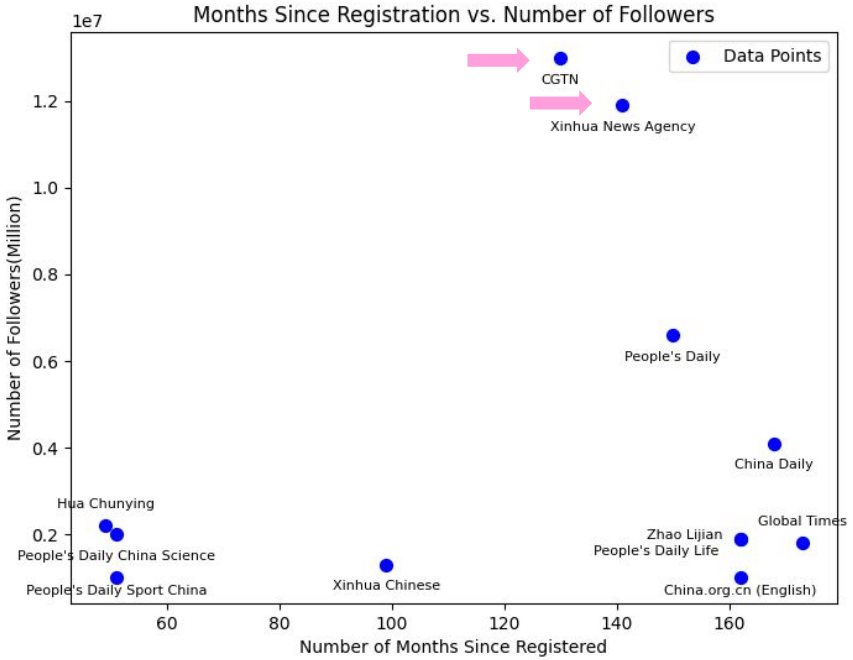
Targeting specific account/organization

- Top 12 X(Twitter) accounts with highest follower count
- CGTN VS. Chinese Embassy

Section 4

Top 12 Twitter Account by Followers Count

Top 12 Most Followed Twitter Accounts



- The scatter demonstrates the number of **months since registration** and **number of followers** in millions.
- By observing the position, we see some accounts are growing faster compare to others.
- CGTN and Xinhua News Agency gained large follower group in short period of time.

“CGTN and Xinhua News Agency are growing fast”

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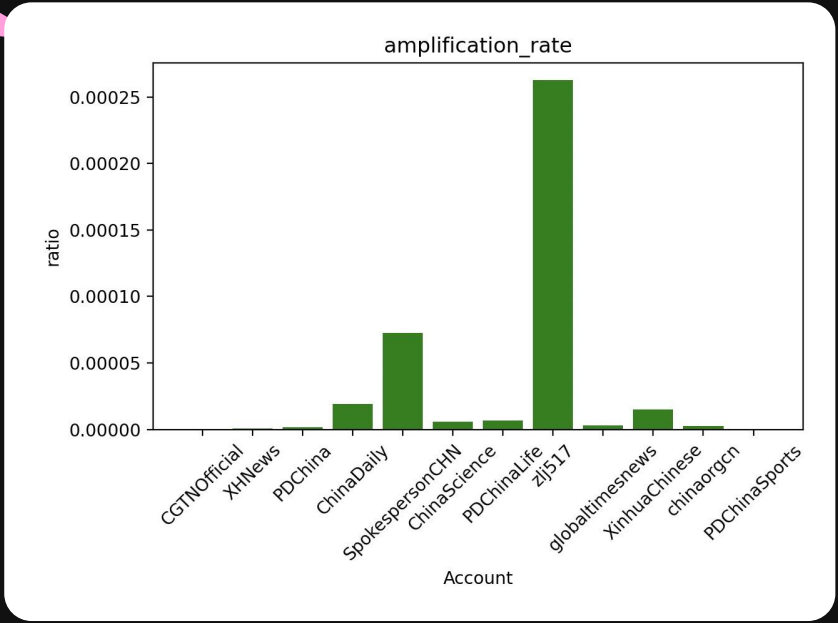
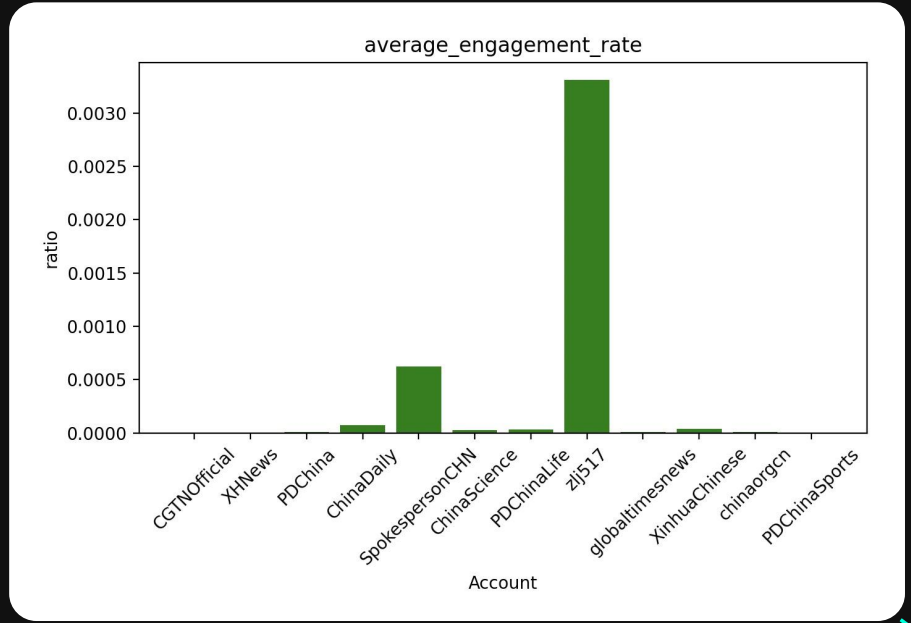
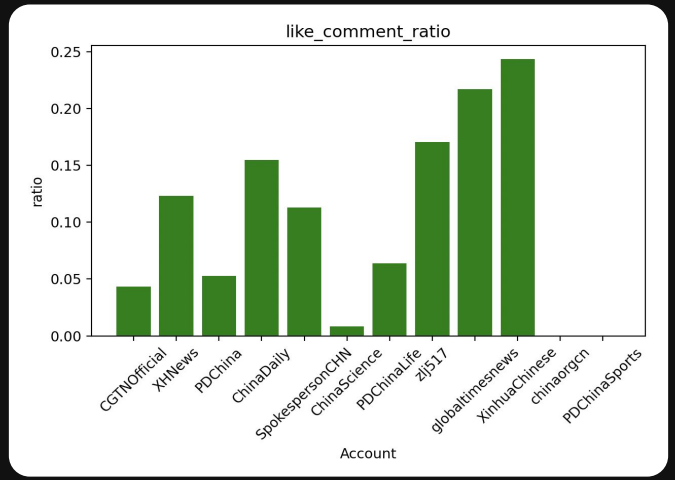
Social Media Engagement Metrics



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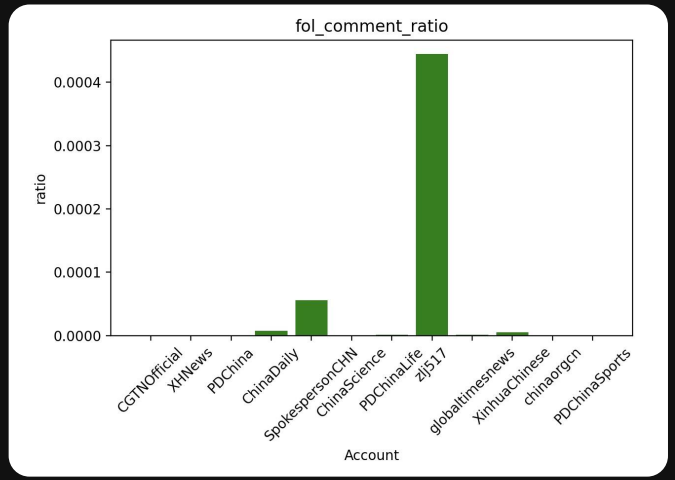
Account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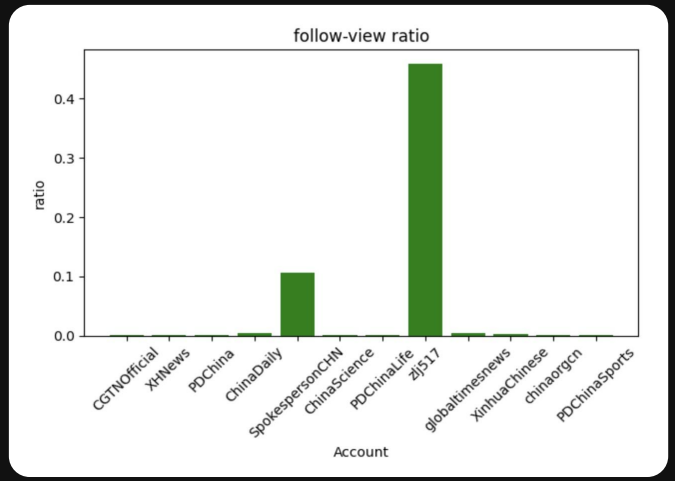
chinaorgcn
PDChinaSports
Account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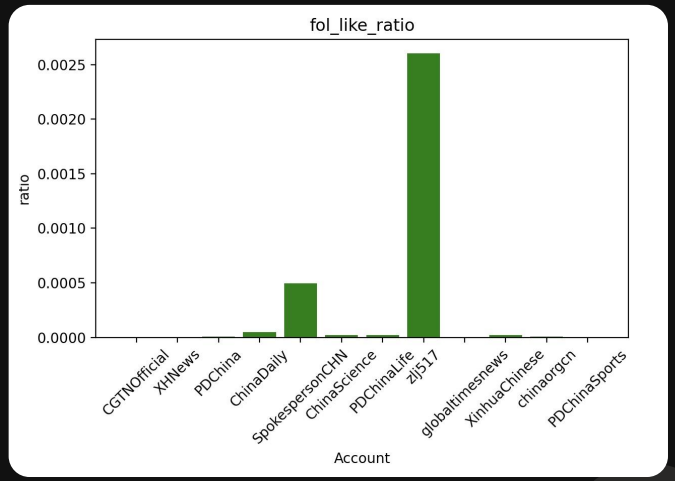
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SpokespersonCHN
ChinaScience
PDChinaLife
zlj517
globaltimesnews
XinhuaChinese
chinaorgcn
PDChinaSports
Account

“The Real Influence”

The presented bar plot offers an insightful evaluation of the top 12 followed Twitter accounts, focusing on diverse engagement metrics, including average engagement rate and Amplification rate. Notably, a distinct disparity becomes apparent when observing the engagement rates of **Hua Chunying** and **Zhao Lijian** in comparison to the remaining accounts.

The data underscores a significant contrast between these two accounts and the others. Zhao Lijian's average engagement rate stands prominently at approximately **0.33%**, while Hua Chunying's registers at **0.0624%**. In contrast, the remaining accounts exhibit substantially lower rates, all falling below the **0.01%** mark.

Of particular interest is the fact that both Zhao Lijian and Hua Chunying accounts are personal handles affiliated with **the Ministry of Foreign Affairs Spokesperson of China**. Despite being governmental or organizational representatives, these individual accounts exhibit notably higher engagement rates, signaling a distinct influence compared to the more official or institutionalized accounts. This observation suggests a tendency among users to gravitate toward personal posts, possibly indicating a preference for more direct and relatable communication.

Section 5

CGTN V.S. Chinese Embassy

CGTN

Chinese Embassy

CGTN and the Chinese Embassy represents two distinct aspect of of social media outlets of China. The former focuses on **culture and entertainment**, while the later is directly speak on behalf of the **Ministry of Foreign Affairs**

Owner: China Media Group(CMG)

49 Entities

176.45 Million Followers

3.6 Million Followers on Average

Owner: Ministry of Foreign Affairs

123 Entities

4.79 Million Followers

0.04 Million Followers on Average

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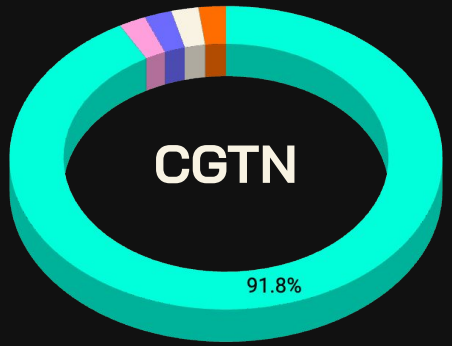
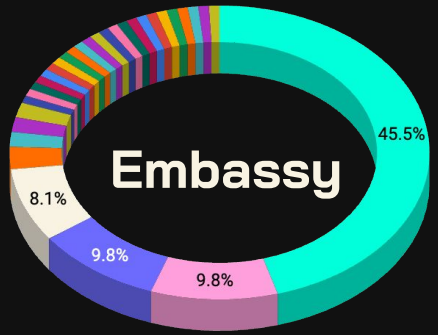
Languages

CGTN only uses only 5 languages with 91.8% being English, the Embassy uses 31 languages with less than 50% being english. Every embassy uses the local language.



English Arabic French Russian Spanish



English French Spanish Arabic
Portuguese Serbian Russian German
Khmer Bahasa Indonesia Chinese Bulgarian
Bengali Latvian Burmese Korean
Kyrgyz Turkish Persian Estonian
Belarusian Czech Japanese Italian 8 more

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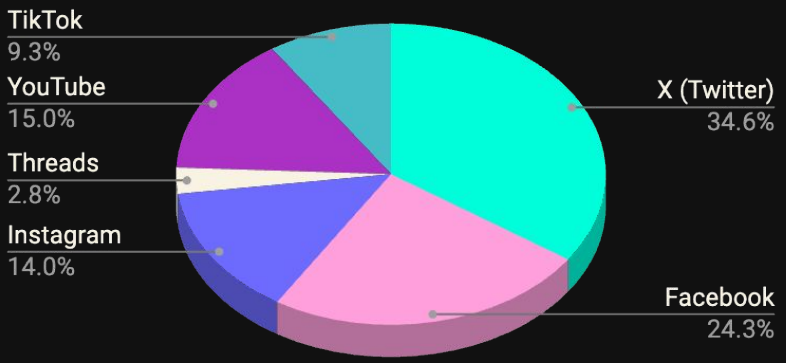
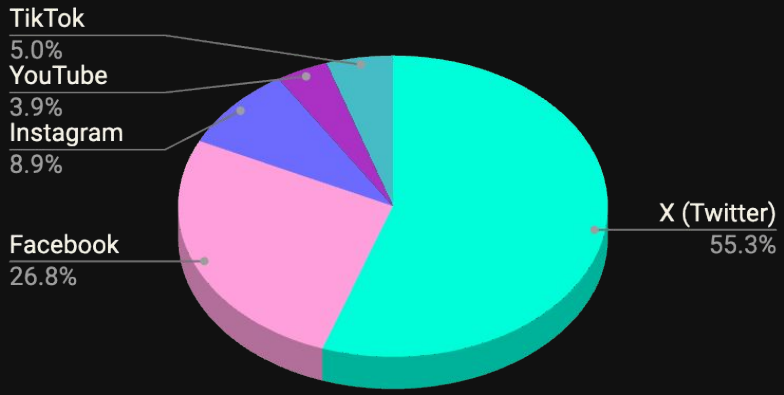
Use of Platforms

CGTN uses each of the 6 platforms relatively more evenly, while the Embassy emphasizes heavily on Twitter. No Embassy has Threads account in the given data set.

CGTN



Chinese Embassy



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Recap - Significance of Part 2

1. Accounts such as CGTN and Xinhua News Agency are growing fast - all **news/cultural/entertainment outlets** instead of directly government owned accounts with political contents.
2. **Personal accounts** has a high interactivity rate compare to accounts owned by major media groups.
3. Suggests that people are more likely to trust governmental accounts following them without watching many of their posts.
4. Despite a large follower base, **engagement rates overall are low**. Most engagement is concentrated on cultural and entertainment content or personal accounts of **Foreign Ministry spokespeople**, with official accounts being less popular.
5. The entities have **preference** on social media platforms base on their contents, **government accounts usually use twitter.**

What's Next? Future Study

While this project has yielded interesting findings, it is **limited by the available data**. Based on our conclusions, we believe that future studies could delve deeper into each social media platform. For example, analyzing **user demographics** would help determine which age groups are exposed to the content. Studying **longitudinal data** on followers and post engagements would aid in assessing the growth rate of accounts, how quickly they are expanding, and thus the extent of their influence.

Resources Citation

CANIS PRC state media on social media platforms

Data Reportal: Global Social Media Statistics

Statista: Number of Instagram Users 2020-2025

Oberlo: How many people use Youtube (2019-2028))

Statista: Thread User Statistics

Wikipedia: List of countries and territories where English is an official language

Wikipedia: List of countries and territories where Chinese is an official language

Wikipedia: List of countries and territories where Spanish is an official language

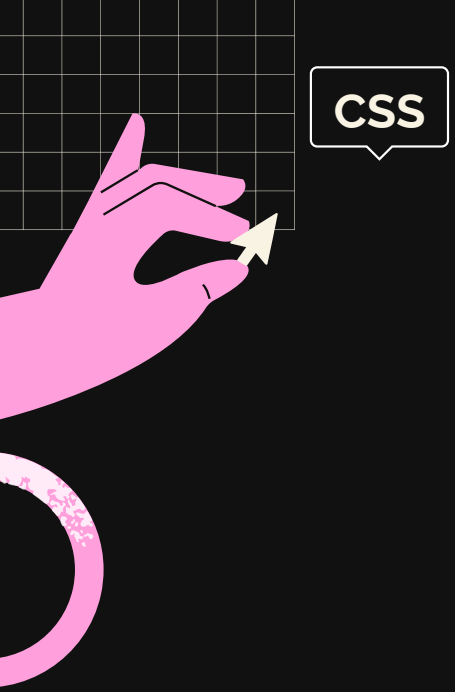
Resources Citation

Wikipedia: List of countries and territories where French is an official language

Wikipedia: List of countries and territories where Portuguese is an official language

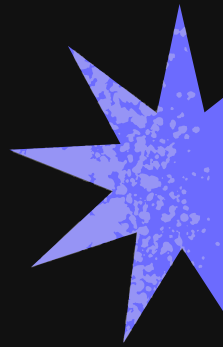
Wikipedia: List of countries and territories where German is an official language

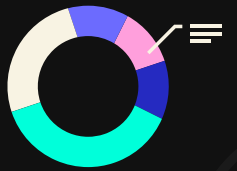
Wikipedia: List of languages by total number of speakers



Thanks!

Codes Used at Repository(extrenal link): https://github.com/Catheriiiine/CANIS





https://canis-hackathon-2.devpost.com/

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