Characterizing and Comparing COVID-19 Misinformation Across Languages, Countries and Platforms

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Let’s get some shared language…

• **Misinformation**: is incorrect information created without the intention of causing harm

• **Disinformation**: is incorrect information and intentionally created to hurt an individual, a group, or a country

• **Mal-information**: is correct information (based on reality), but used to cause harm to an individual, a group, or a country
Background: We live in the age of misinformation

EXPLOSION OF INFORMATION HAS RESULTED IN CONFUSION AND DISTRUST IN MEDIA

SOCIAL MEDIA IS A HOTBED OF MISINFORMATION AND ECHO CHAMBERS GLOBALLY

MISINFORMATION HAS LASTING IMPACTS AND STUDYING THIS PROBLEM ON A GLOBAL SCALE IS INCREDIBLY COMPLEX
As people were isolated in 2020, their sense of community and connection has relied increasingly on the use of social media.

Misinformation and echo chambers online have had serious consequences.

Fact-checking initiatives have struggled to debunk false claims surrounding COVID-19 globally.
Purpose

• Explore COVID-19 related misinformation across languages and platforms
• Understand how the types of misinformation experienced around the world are different in different countries and different languages
• Focused on three languages/countries as examples - English, Farsi, and Chinese
• Categorized the content, topics, and roots of misinformation across these three
Methodology

- Opportunistic sample of 200 items of misinformation in English, Chinese, and Farsi on social media
- Collected from multiple platforms
- Utilized a qualitative approach, categorizing misinformation in all three languages

<table>
<thead>
<tr>
<th>Platforms</th>
<th>China</th>
<th>Iran</th>
<th>USA</th>
<th># of Monthly Active Users (as of 2020)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Twitter</td>
<td>✗</td>
<td>✓</td>
<td>✓</td>
<td>330 million</td>
</tr>
<tr>
<td>Facebook</td>
<td>✗</td>
<td>✗</td>
<td>✓</td>
<td>2.7 billion</td>
</tr>
<tr>
<td>Instagram</td>
<td>✗</td>
<td>✓</td>
<td>✓</td>
<td>1 billion</td>
</tr>
<tr>
<td>WhatsApp</td>
<td>✗</td>
<td>✓</td>
<td>✓</td>
<td>2 billion</td>
</tr>
<tr>
<td>Weibo</td>
<td>✓</td>
<td>S</td>
<td>S</td>
<td>550 million</td>
</tr>
<tr>
<td>WeChat</td>
<td>✓</td>
<td>S</td>
<td>?</td>
<td>1.2 billion</td>
</tr>
<tr>
<td>TikTok</td>
<td>✓</td>
<td>✓</td>
<td>?</td>
<td>800 million</td>
</tr>
</tbody>
</table>
Methodology: Categorization of misinformation topics

1. Cures of COVID-19
2. Origin of COVID-19
3. Testing
4. Vaccines
5. Prevention methods (public)
6. Prevention methods (individual)
7. Number of deaths and confirmed cases (statistics)
8. Rumors about other countries (often xenophobic and external to a country)
9. Virus Transmission
10. Others
Methodology: Categorization of roots of misinformation

1. Political-related roots
2. Medical/Science-related roots
3. Celebrities & Pop Culture-related
4. Religious-related roots
5. Criminal-related roots
6. Others
Results: Distribution of roots by language.
Results:
Distribution of topics by language
Key takeaways

• Largely in all three countries the source of misinformation was the government or politicians.

• English and Farsi misinformation samples have more in common in terms of the topic of misinformation than Chinese, specifically regarding the actions of the individual.

• Difference in how government controls on social media platforms drives users to specific platforms, with different infrastructure for tracking and controlling misinformation.

• The absence of misinformation with criminal roots and fewer categories of misinformation overall in Chinese social media is notable and points out the tradeoff in the control of misinformation.

• A key challenge going forward for all societies and countries will be in determining how to control misinformation without silencing the voices needed to hold governments accountable.
Future Work

• Currently we are working on quantifying political polarization on social media, particularly of politicians in the United States

• We plan to apply these techniques to other populations, specifically groups that are most vulnerable to misinformation

• We also will be exploring the impact of mainstream media outlets, both in the spread of misinformation and political polarization on and offline
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