

Studying Problematic Content in the Web Advertising Ecosystem

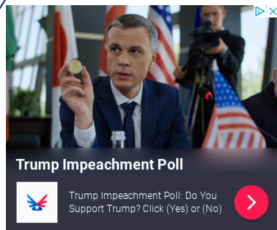
Challenge:

Online ads pervade the daily lives of all web users and underpin the current financial model of the web. Many ads contain content that is potentially problematic for the people who see and click on them. For example, ads may use misleading, deceptive, and in some cases, illegal practices. These ads can have negative impact on web users.

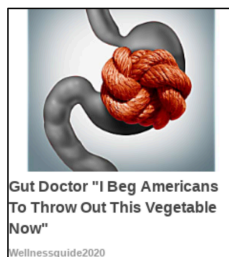
Solution:

- Approach: Systematically study, classify, and measure the prevalence and impacts of problematic content in web ads
- Key findings so far:
 - Significant amounts of problematic content in web ads (~50% in some measurements)
 - Clusters of “bad” ads emerge from user opinion [CHI '21]
 - Problematic political-themed ads on around 2020 election (e.g., misinfo clickbait, fake polls) [IMC'21]

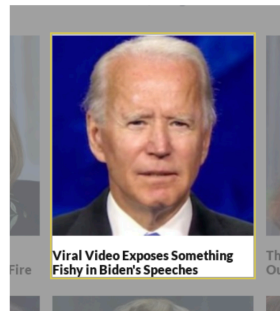
Sample Problematic Ads



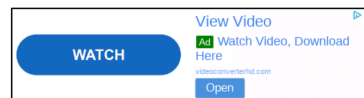
Manipulative Ad Designs



Supplements



Clickbait and Mis/Disinformation



Potentially Unwanted Software

Scientific Impact:

- Expanding security and privacy research on the ad ecosystem to consider not just technical mechanisms (e.g., tracking) but also the user-visible content
- Publicly available measurement infrastructure and large ad datasets will lay foundation for future research

Broader Impact and Broader Participation:

- Goals:
 - Help “draw the line” for ad platforms, policymakers
 - Empower individual users
 - Identify and respond to problematic case studies
- Ongoing collaboration with Consumer Reports Digital Lab on an ad archive