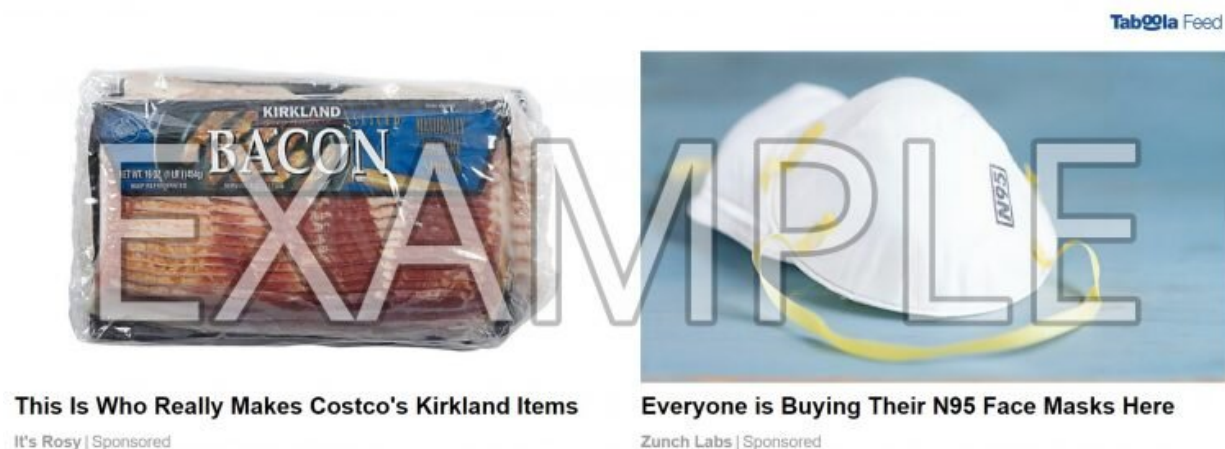


# Q&A: Researchers click ads on 200 news sites to track misinformation

September 29 2020, by Sarah McQuate



UW researchers found that both mainstream and misinformation news sites displayed similar levels of problematic ads. Credit: University of Washington

With the election season ramping up, political ads are being splashed across the web. But in the age of misinformation, how can news consumers tell if the ads they're seeing are legitimate?

U.S. Today and other mainstream news sites might seem like they would limit access to deceptive ads. But a study by University of Washington researchers found that both mainstream and misinformation news sites displayed similar levels of problematic ads.

The team, composed of researchers in the Paul G. Allen School of Computer Science & Engineering, in mid-January collected more than 55,000 ads across more than 6,000 mainstream news sites and about 1,000 misinformation news sites (such as those on [this list](#)). Then the researchers manually examined ads from 100 each of the most popular mainstream and misinformation sites to categorize them as problematic or not. The team presented these findings May 21 at the Workshop on Technology and Consumer Protection.

UW News had a conversation with the team about this research, where ads on news sites come from, and how things might change leading up to the election.

## **It sounds like there are two main types of ads on these sites: native and display ads. What's the difference?**

Eric Zeng, graduate research assistant in the Allen School: A "native ad" is designed to blend in with the rest of the page. So for example on a news site, a native ad would look like a headline for a news article. Or in an app like Yelp, it'd be a sponsored listing for a restaurant. Sometimes sites will try to make ads very clear by having a big button that says "ad" or "ad content." But sometimes sites make it vague so it's hard for people to tell.

"Display ads," also sometimes called "banner ads," are generally on the top or the bottom of the screen, in a sidebar or within the text of a news article. They look like images.

## **What makes an ad "problematic?"**

Franziska Roesner, associate professor in the Allen School: That's exactly one of the questions we are trying to study. We see all sorts of

techniques in the wild, such as clickbait, native ads that look like articles, gross images, polls, sensational claims and more. We're trying to classify and measure these types of techniques and study how prevalent they are. Now we're also studying how users react to them.

Tadayoshi Kohno, professor in the Allen School: In one sense, an ad on the web is just a paid way for me to get something in front of someone else, so they can click on it and come to my site. But advertising on the web can also be a mechanism to deliver content, as opposed to the old-fashioned definition of selling a product.

Eric Zeng: If you put a billboard or poster up, you had to convey the whole message in there and hopefully inspire people to do whatever you want. But for online ads, you just need to get people to click.

We saw ads that looked like political opinion polls, asking things like "Should Donald Trump be impeached?" or "Which candidate do you prefer for president?" Then if you click on it, it just takes you to an ad for some other product. Or maybe it really is a poll, but when you click on it, you have to sign up for a mailing list to submit your vote.

This medium enables different types of deceptions.

FR: Also, a billboard in the physical world is clearly an ad. We all understand that. But an ad that looks like a news headline that's sitting among other legitimate headlines is potentially problematic. If I'm visiting The New York Times or another news outlet that I trust, and I can't distinguish something on there as an ad, then I'm trusting that content way more than I would if I were on some random site.

## TRENDING TODAY

Ads by Revcontent



Celebrities Who Refuse to Admit They Aren't Famous Anymore

Upbeat News



New Cash Law Coming Before Election?

Better Living Digest



Drone Captures Photos No One Was Supposed to See

Upbeat News

A screenshot of three native ads

## Where do the ads we see on news sites come from?

EZ: News sites will embed a bit of code from an ad provider, like Google Ads, on their websites. Then when someone goes to the news site, the ad provider will look at all of the ads that advertisers have submitted, hold an auction among the advertisers to determine which ad is picked and then display the winning ad on the website.

FR: The ecosystem is really complicated. Let's say *The Seattle Times* were to say, "We don't want these types of ads on our site." It's not so simple. It's not like *The Seattle Times* chose the ads we're seeing. They work with some ad providers that work with a bunch of other companies.

So if there's a problematic ad on *The Seattle Times* site, it's coming from what ad providers are pulling in. There's also the targeting aspect: Who is

viewing the page? Someone who tends to click on a certain type of ad is probably more likely to see it. Different visitors to the same site will get different ads. So it's not even like the editors can load the page and see what the ads on their [site](#) will look like in advance.

## **What made you, as security and privacy experts, decide to start studying this?**

FR: There's been a lot of work in the security community, including work that we've done, looking at this broader ad ecosystem, but mostly from a privacy perspective—such as looking at what data ads collect about users' browsing behaviors—or from a security perspective—such as looking for ads that are used to spread malware.

But then we started thinking about the fact that so much content that people see online is not from the primary websites they're browsing, but from the ads on those pages. These ads might not necessarily be outright misinformation or lead to misinformation sites, but they're still preying on the same types of biases.

TK: When asked about bad ads, privacy researchers used to talk about mechanisms—for example, studying how an ad is pervasively tracking an individual. This paper is broadening the definition, taking a look at it from the perspective of the content of the ad, and where it takes someone if they click on it.

FR: Instead of a technical attack where your computer is vulnerable, we're thinking about it as more like your brain is vulnerable.



A screenshot of an ad that looks like a political poll.

## What was your goal with this project?

EZ: We wanted to compare mainstream news sites versus misinformation news sites to see if the quality of the ad content on those sites was any different. We hypothesized that we'd see more problematic ads on misinformation sites. But both had roughly similar quantities of these problematic ads. It's evidence that both these types of websites are participating in the same advertising ecosystem.

For example, we found that the advertising provider Taboola ran more of the problematic ads than any of the other ad platforms that sites use. Taboola also claims that their ads provide more revenue to websites than standard banner [display ads](#). If these ads can get people to click, then that's earning the websites money.

Then, because mainstream [news](#) sites are struggling, they might be turning to ad providers like Taboola because it's the best way to sustain

their business, unfortunately. And then same for misinformation sites, it's a way to make a quick buck by tricking people into clicking on these ads.

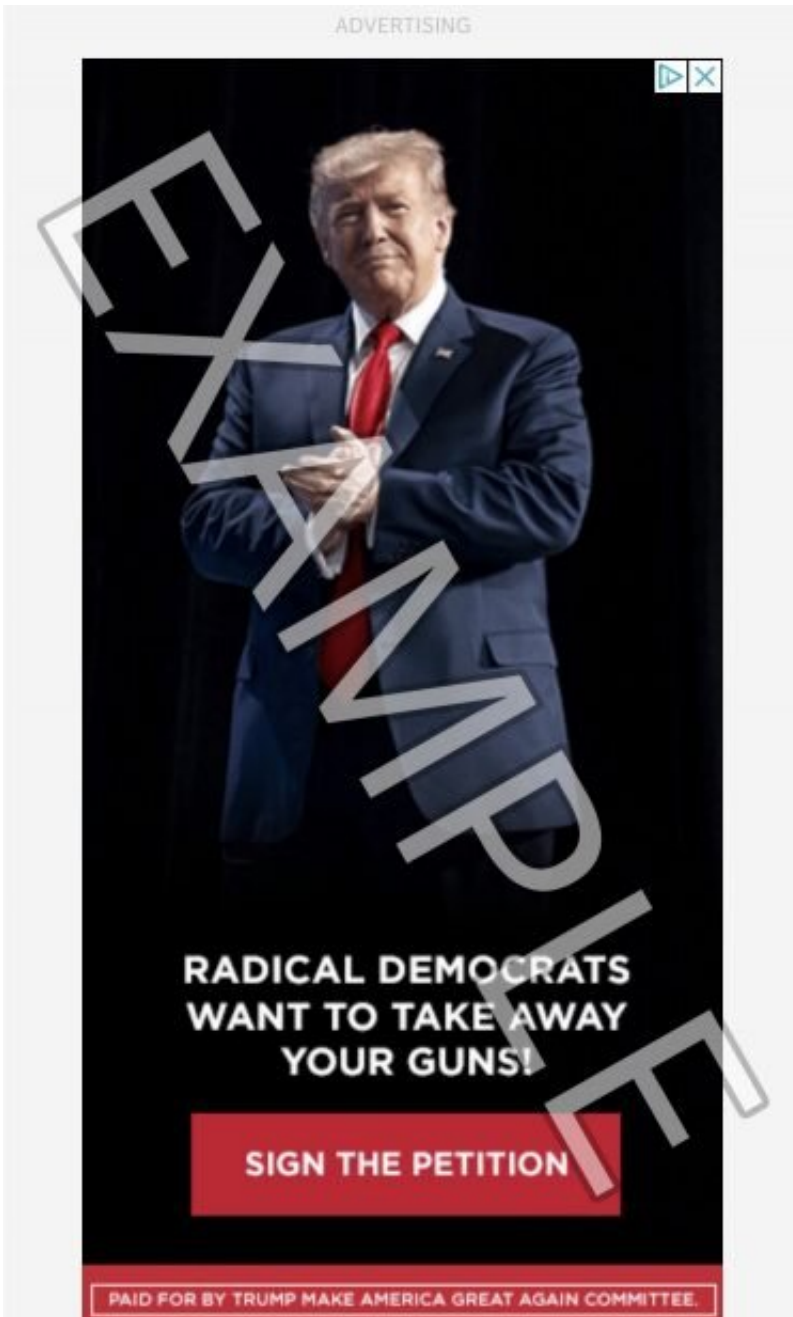
## **Why have ads if they're going to be problematic?**

FR: There's tension here—the outcome can't be "ads are bad." They fund the economic model of the web. I think legitimate content websites are walking this weird line between the quality of ad content and the revenue that they're making from it.

The hope is that somehow we can balance these things so we can have ads and revenue, but improve the quality of content that people are seeing online.

## **How do you think the upcoming election will change the types of content from what you saw in January?**





A screenshot of a political banner ad on a news site.

FR: We anticipate that things will get more interesting near the election, in terms of actual [political ads](#) and the mechanisms and techniques people will use. But we're also interested in seeing if there are ads that



use the political climate, such as those fake polls that aren't legitimate ads for political candidates, as part of the technique.

EZ: We plan to continue collecting data to see what tactics these campaigns are using leading up to the election.

## **What, if anything, should people do as they're seeing ads on their favorite news sites?**

FR: In doing this work, I think I've become more aware of all the content on a page, but the ads in particular because they're designed to draw you in. I'm practicing being more aware of my reactions to them.

TK: We've developed an intuition of what to be aware of when we're crossing the street—Is there a crosswalk nearby? Has traffic in the opposite direction stopped? But I would say that in the online world, it's sometimes hard to have that sense. Is a website intentionally trying to mislead us or is it just confusing?

We need to develop this level of street awareness, where we know that not everything out there on the web has our best interests at heart.

FR: It leads to a separate research question that we're following up on now: How do we help people be aware of the emotional and cognitive impacts of these things? Eric, you looked at the most ads as part of this research. Do you have any advice?

EZ: Get an ad blocker.

**More information:** Bad News: Clickbait and Deceptive Ads on News and Misinformation Websites. [www.ieee-security.org/TC/SPW20...rs/zeng-conpro20.pdf](http://www.ieee-security.org/TC/SPW20...rs/zeng-conpro20.pdf)

Provided by University of Washington

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