

Social Justice Watch 0630

[图集精选](#)

[消息精选](#)

[Putin's Long War Against American Science](#)

[This time they can see our pain](#)

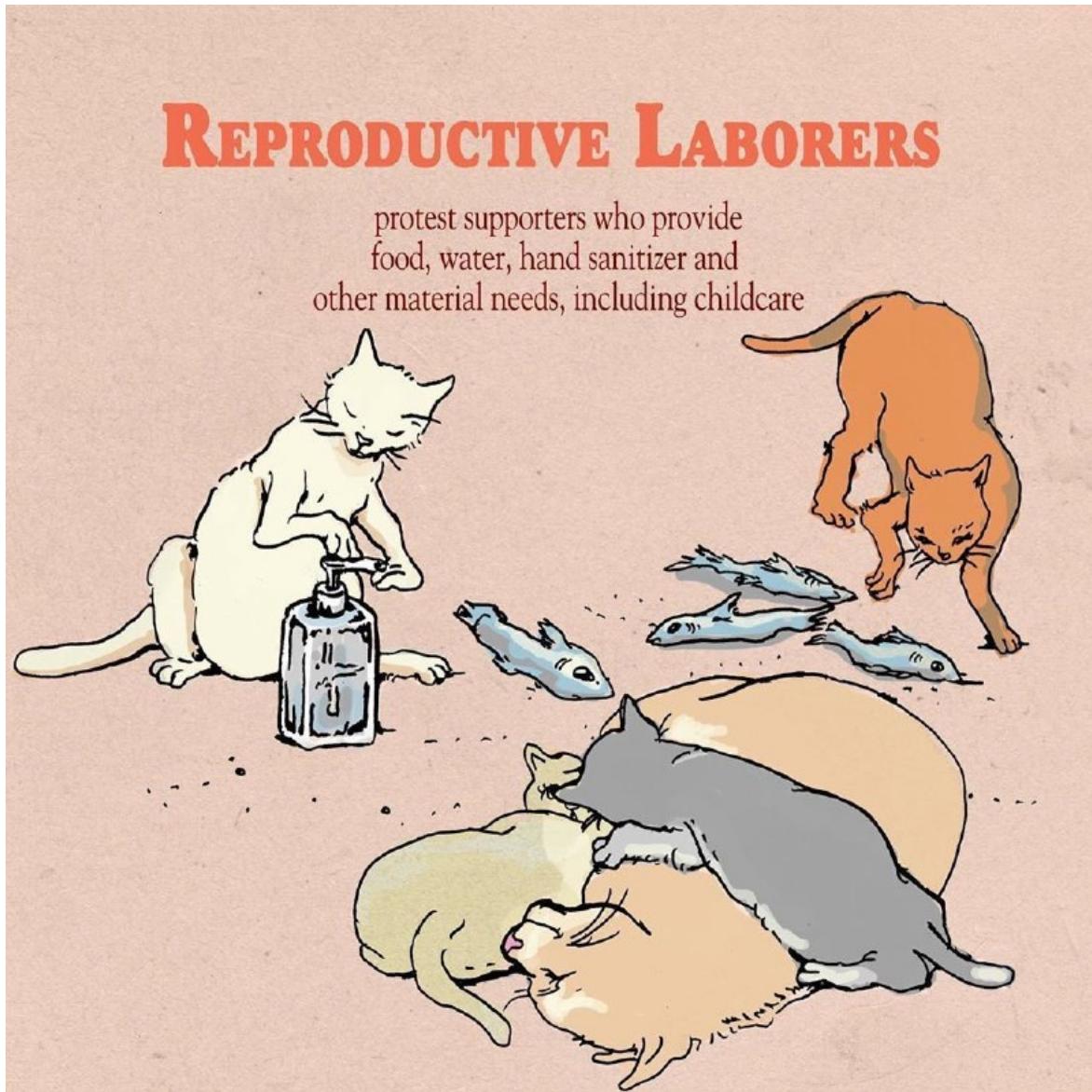
[What a machine learning tool that turns Obama white can \(and can't\) tell us about AI bias](#)

来源：[Social Justice Watch](#)

[镜像](#)

图集精选

[返回目录](#)



FRONTLINERS

use umbrellas to guard against projectiles and cameras while keeping hands free for when help is needed

SHIELD SOLDIERS

frontliners who use impromptu shields to form a first line of defense



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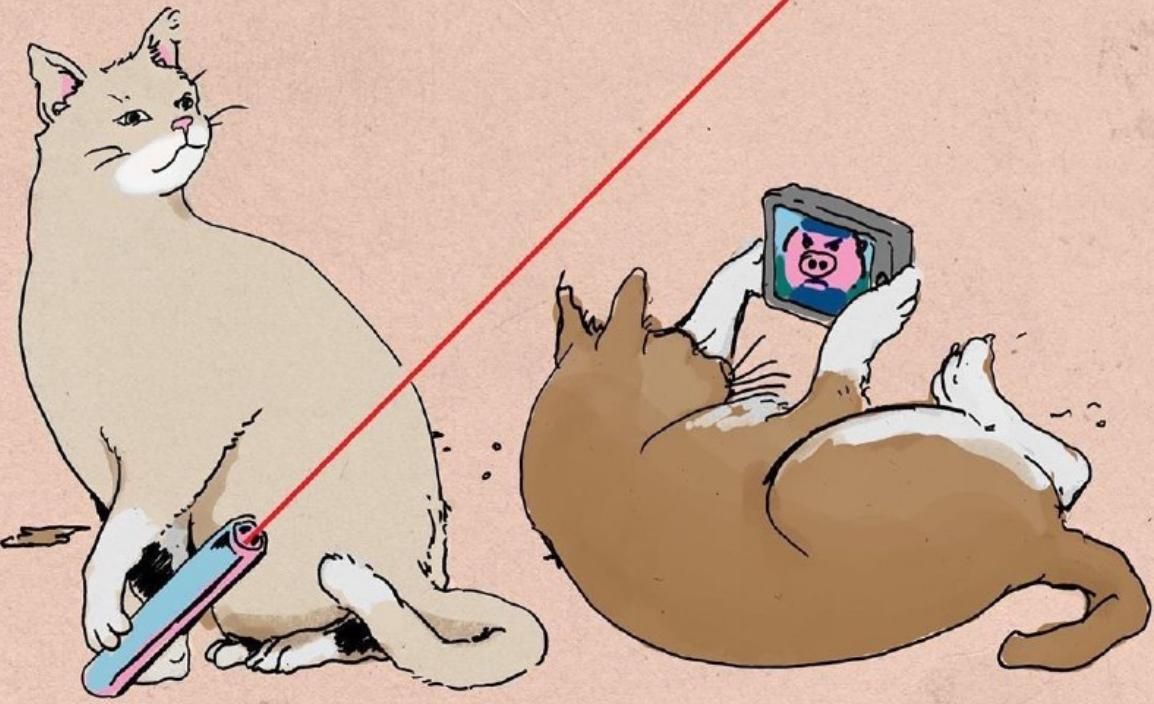
FIRE SQUAD

protestors who use water and
traffic cones to suppress
and extinguish teargas containers



LIGHT MAGES

protestors who use laser pointers to obstruct surveillance cameras, drones and police visors



COPWATCH

protest supporters who use phones to record violent police and document police tactics and weaponry

MEDICS

protest supporters who are able to treat injuries
or have materials to treat teargas exposure



ONLINE COMMS

online protestors who report on police strategies and provide protestors with real-time strategic updates using apps like Signal

DESIGNERS

protest supporters who make inspiring images, infographics or banners for protestors

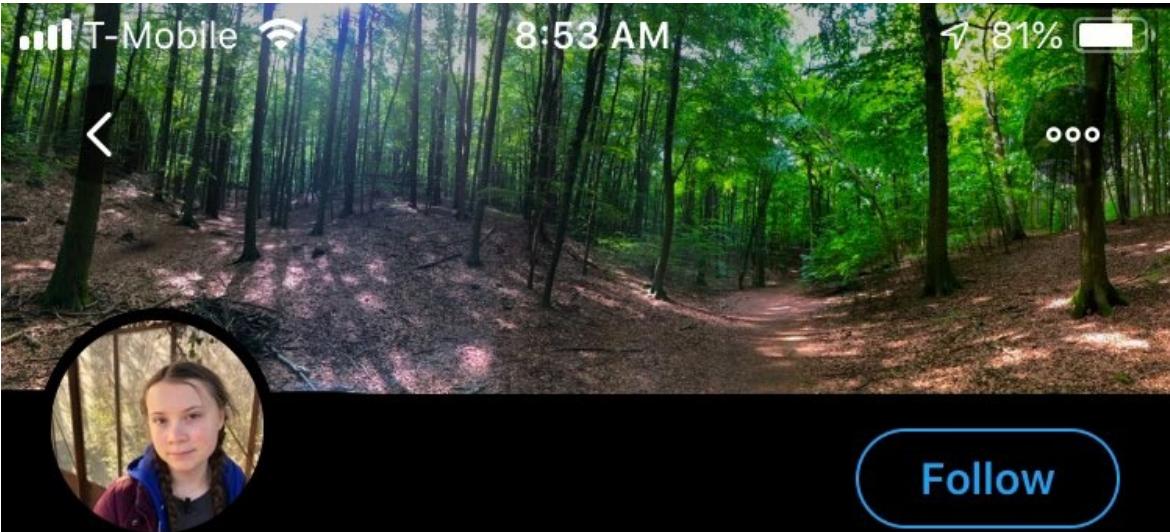




Donald J. Trump ✅
@realDonaldTrump

▼

So ridiculous. Greta must work on her Anger Management problem, then go to a good old fashioned movie with a friend! Chill Greta, Chill!



Greta Thunberg ✅

@GretaThunberg

A teenager working on her anger management problem. Currently chilling and watching a good old fashioned movie with a friend.

a boomer will never own a zoomer on social media. science won't allow it.
[source](#)



Wisconsin

An 18 y/o black woman was SET ON FIRE yesterday by 4 WHITE MEN who approached her car at a stoplight screaming racial slurs at her before throwing lighter fluid and a match in her face.

She suffers from THIRD DEGREE BURNS to her body.

SAY HER NAME: ALTHEA BERNSTEIN [source](#)

[返回目录](#)

消息精选

[返回目录](#)

Imagine someone u love is fast asleep in bed after a long day of working to help others. Imagine that while she is asleep armed strangers break down her door & shoot her in her bed 8 times. If this was ur daughter or sister, u would want justice. [#BreonnaTalyor](#) deserves the same. [source](#)

cop finds a tampon in their frappuccino: investigation is opened immediately

cops murder a black woman in her own home while she's asleep: no investigation, one of three officers involved is fired months later only due to national outrage [source](#)

Democracy depends on an informed citizenry and social cohesion. Here's a look at how misinformation can spread through social media, and why it can hurt our ability to respond to crises. [link](#) [source](#)

Telegraph

Putin's Long War Against American Science

On Feb. 3, soon after the World Health Organization declared the coronavirus to be a global health emergency, an obscure Twitter account in Moscow began retweeting an American blog. It said the pathogen was a germ weapon designed to incapacitate and kill....

Here's one feminist life rule of mine: I never judge a man based on how he treats women when they are coddling or praising him. Look closely at how a man reacts when a woman displeases him, stands up to him, or draws a boundary with him, and you will find out who he really is. [source](#)

when girls mention sexual assaults men's first response is "happens to men too" yet when men talk about the high rates of male suicide which is a very valid problem in our society you will NEVER find a girl say "happens to girls too" because we understand basic empathy [source](#)

[telegra.ph/What-a-machine-learning-tool-that-turns-Obama-white-can-and-can-tell-us-about-AI-bias-06-27-2](#)

Telegraph

What a machine learning tool that turns Obama white can (and can't) tell us about AI bias

It's a startling image that illustrates the deep-rooted biases of AI research. Input a low-resolution picture of Barack Obama, the first black president of the United States, into an algorithm designed to generate depixelated faces, and the output is a white...

That woman in red. THATS how you use your privilege. [link source](#)

Tik Tok suspended the account of this 17 year old Muslim girl for raising awareness about the Concentration Camps detaining 2 million Muslims in China

They want silence. We want JUSTICE!

PLEASE KEEP TALKING ABOUT THIS. [source](#)

If you need to explain social distancing to kids, or anyone, use this [source](#)

telegra.ph/This-time-they-can-see-our-pain-06-30-3 | [source](#)

Telegraph

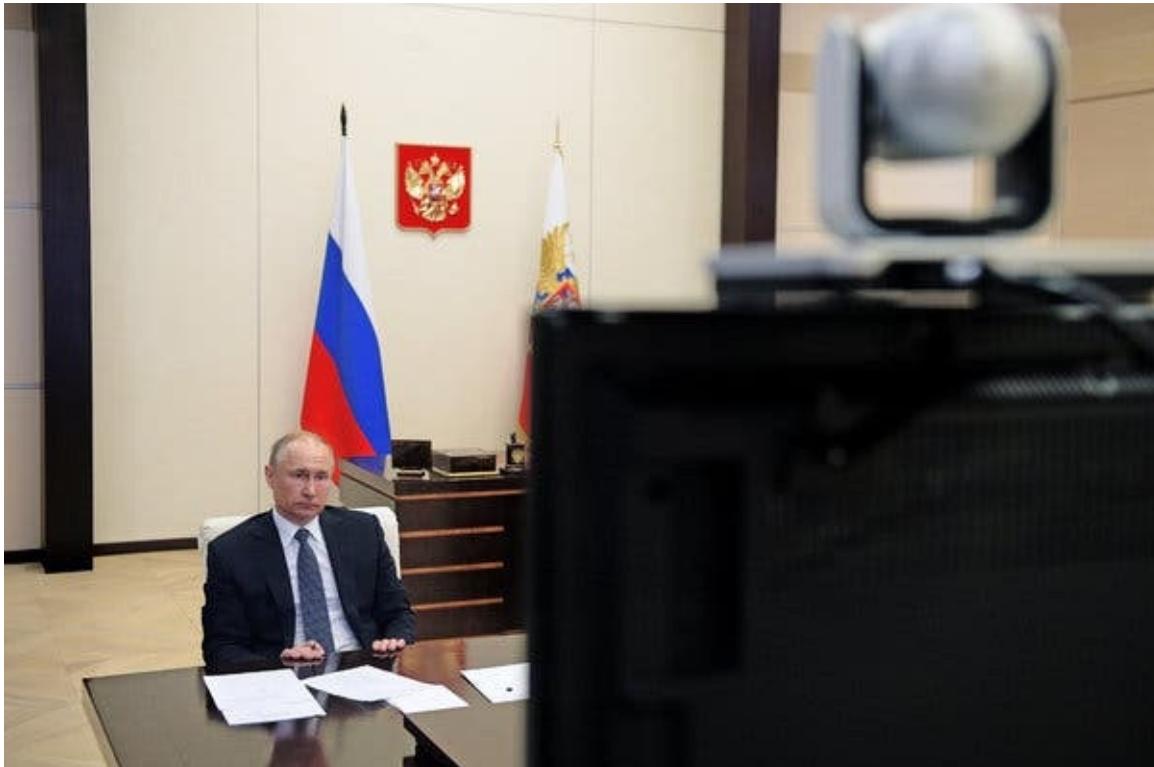
This time they can see our pain

Salt Lake City's recent protests and perspectives from a young black student. You can call the protest violent. By the end, it was. But understand that when you do so, when all you are willing to see is the parts of activism that make you most uncomfortable...

[返回目录](#)

Putin's Long War Against American Science

[返回目录](#)



A decade of health disinformation promoted by President Vladimir Putin of Russia has sown wide confusion, hurt major institutions and encouraged the spread of deadly illnesses.

On Feb. 3, soon after the World Health Organization declared the coronavirus to be a global health emergency, an obscure Twitter account in Moscow began retweeting an American blog. It said the pathogen was a germ weapon designed to incapacitate and kill. The headline called the evidence “irrefutable” even though top scientists had already debunked that claim and declared the novel virus to be natural.

As the pandemic has swept the globe, it has been accompanied by a dangerous surge of false information — an “infodemic,” according to the World Health

Organization. Analysts say that President Vladimir V. Putin of Russia has played a principal role in the spread of false information as part of his wider effort to discredit the West and destroy his enemies from within.

The House, the Senate and the nation's intelligence agencies have typically focused on election meddling in their examinations of Mr. Putin's long campaign. But the repercussions are wider. An investigation by The New York Times — involving scores of interviews as well as a review of scholarly papers, news reports, and Russian documents, tweets and TV shows — found that Mr. Putin has spread misinformation on issues of personal health for more than a decade.

His agents have repeatedly planted and spread the idea that viral epidemics — including flu outbreaks, Ebola and now the coronavirus — were sown by American scientists. The disinformers have also sought to undermine faith in the safety of vaccines, a triumph of public health that Mr. Putin himself promotes at home.

Moscow's aim, experts say, is to portray American officials as downplaying the health alarms and thus posing serious threats to public safety.

"It's all about seeding lack of trust in government institutions," Peter Pomerantsev, author of "Nothing Is True and Everything Is Possible," a 2014 book on Kremlin disinformation, said in an interview.

The Russian president has waged his long campaign by means of open media, secretive trolls and shadowy blogs that regularly cast American health officials as patronizing frauds. Of late, new stealth and sophistication have made his handiwork harder to see, track and fight.

Even so, the State Department recently accused Russia of using thousands of social media accounts to spread coronavirus misinformation — including a conspiracy theory that the United States engineered the deadly pandemic.

The Kremlin's audience for open disinformation is surprisingly large. The YouTube videos of RT, Russia's global television network, average one million views per day, "the highest among news outlets," according to a U.S. intelligence report. Since the founding of the Russian network in 2005, its videos have received more than four billion views, analysts recently concluded.



Because public interest in wellness and longevity runs high, health disinformation can have a disproportionately large social impact. Experts fear that it will foster public cynicism that erodes Washington's influence as well as the core democratic value of relying on demonstrable facts as a basis for decision-making.

"The accumulation of these operations over a long period of time will result in a major political impact," Ladislav Bittman, a former Soviet bloc disinformation officer, said in explaining the Kremlin's long-game rationale.

Sandra C. Quinn, a professor of public health at the University of Maryland who has followed Mr. Putin's vaccine scares for more than a half-decade, said the Russian president was drawing on an old playbook. "The difference now is the speed with which it spreads, and the denigration of the institutions that we rely on to understand the truth," she said in an interview. "I think we're in dangerous territory."

Living weapons

As a young man, Mr. Putin served in the K.G.B., the Soviet Union's main

intelligence agency, from 1975 to 1991. He worked in foreign intelligence, which required its officers to spend a quarter of their time conceiving and implementing plans for sowing disinformation. What Mr. Putin accomplished is unclear. But public accounts show that he rose to the rank of lieutenant colonel, and that his 16-year tenure coincided with a major K.G.B. operation to deflect attention from Moscow's secret arsenal of biological weapons, which it built in contravention of a treaty signed with the United States in 1972.

The K.G.B. campaign — which cast the deadly virus that causes AIDS as a racial weapon developed by the American military to kill black citizens — was wildly successful. By 1987, fake news stories had run in 25 languages and 80 countries, undermining American diplomacy, especially in Africa. After the Cold War, in 1992, the Russians admitted that the alarms were fraudulent.

As Russia's president and prime minister, Mr. Putin has embraced and expanded the playbook, linking any natural outbreak to American duplicity. Attacking the American health system, and faith in it, became a hallmark of his rule.

At first, his main disseminator of fake news was Russia Today, which he founded in 2005 in Moscow; in 2008 it was renamed RT, obscuring its Russian origins.

Early in 2009, a particularly virulent flu, named H1N1, swept the globe, and thousands of people died. That year, the network featured the conspiratorial views of Wayne Madsen, a regular contributor in Washington whom it described as an investigative journalist. In at least nine shows and text bulletins, Mr. Madsen characterized the deadly germ as bioengineered. "The world is actually fighting a man-made tragedy," one bulletin declared.

That June, Mr. Madsen told RT viewers that the virus makers had worked at a shadowy mix of laboratories, including the Army Medical Research Institute of Infectious Diseases at Fort Detrick, in Frederick, Md. The institute's official job is to help defend the United States against the kinds of pathogens that Mr. Madsen accused it of creating.

In a follow-up show, Mr. Madsen said the virus had been spliced together from other flu strains, including the virus responsible for the 1918 pandemic, and likened its creators to the mad scientists of "Jurassic Park," the hit movie about resurrected dinosaurs. RT's chyron for the show characterized the result as

“Germ Warfare.”

In 2010, the network founded a new arm, RT America, a few blocks from the White House. Mr. Madsen became a regular on-camera guest.

In 2012 Mr. Putin added the military to his informational arsenal. His newly appointed head of the Russian Army, Gen. Valery Gerasimov, laid out a new doctrine of war that stressed public messaging as a means of stirring foreign dissent. That same year, a shadowy group of trolls in St. Petersburg began using Facebook, Twitter and Instagram to fire salvos of junk information at millions of Americans. The goals were to boost social polarization and damage the reputation of federal agencies.

A rich opportunity arose in 2014 when Ebola swept West Africa. It was the worst-ever outbreak of the hemorrhagic fever, eventually claiming more than 10,000 lives.

RT’s gallery of alleged criminals once again included the U.S. Army. The network profiled an accusation by Cyril Broderick, a former plant pathologist, who claimed in a Liberian newspaper article that the outbreak was an American plot to turn Africans into bioweapon guinea pigs, and cited the AIDS accusation as supporting evidence.

The RT presenter noted that the United States was spending hundreds of millions of dollars to aid Ebola victims in Africa but added: “It can’t buy back the world’s trust.”

The trolls in St. Petersburg amplified the claim on Twitter. The deadly virus “is government made,” one tweet declared. Another series of tweets called the microorganism “just a regular bio weapon.” The idea found an audience. The hip-hop artist Chris Brown echoed it in 2014, telling his 13 million Twitter followers, “I think this Ebola epidemic is a form of population control.”

C.D.C. in the cross hairs

Mr. Putin’s campaign of health misinformation was now a global enterprise, with the creative energy of a fun house and the ability to strike anywhere.

The next target was the Centers for Disease Control and Prevention, the United

States' flagship public health agency. In late 2014, a rash of fake news reports falsely claimed that an Ebola victim in Liberia had been flown to Atlanta, starting a local outbreak. A YouTube video showed what it described as C.D.C. personnel, in hazmat suits, receiving and moving the patient in secret. The deceptive video included a truck bearing the logo of the Atlanta airport.

A rush of tweets turned up the volume. “Panic here in ATL!!” one stated. Another exclaimed, “OMG! Ebola is everywhere!”

As the Kremlin grew more confident, it began to simply recycle old narratives rather than wait for new epidemics to emerge. In 2017, Russian trolls used Twitter to give the AIDS falsehood new life. This time the claimed perpetrator was Dr. Robert Gallo, a scientist who in 1984 had actually helped discover the virus that causes AIDS. The tweets quoted him, falsely, as saying he had designed the pathogen to depopulate humanity. The trolls cited a website, World Truth. Its video attacking Dr. Gallo registered nearly four million views.

Six researchers centered at the University of California, Los Angeles, found that, over decades, the false narratives around AIDS had fostered a “lack of trust” among African-Americans that kept many from seeking medical care. Their 2018 study, of hundreds of black men in Los Angeles who have sex with men, reported that nearly half the interviewees thought the virus responsible for AIDS had been manufactured. And more than one-fifth viewed people who take new protective drugs as “human guinea pigs for the government.”

Beleaguered defenders

Within Russia, Mr. Putin has been a staunch proponent of vaccines.

“I make sure I get my vaccinations in time, before the flu season starts,” he told listeners to a 2016 call-in show. At a televised meeting with doctors in St. Petersburg, in 2018, he scolded Russian parents who refuse to vaccinate their kids: “They endanger the lives of their own children.”

Calling the issue “very important,” he warned of possible administrative steps to speed the pace of childhood immunizations. Last fall, Russia’s health authorities laid out expanded rules that require strict new adherence to protocols for childhood vaccination.

At the same time, Mr. Putin has worked hard to encourage Americans to see vaccinations as dangerous and federal health officials as malevolent. The threat of autism is a regular theme of this anti-vaccine campaign. The C.D.C. has repeatedly ruled out the possibility that vaccinations lead to autism, as have many scientists and top journals. Nonetheless the false narrative has proliferated, spread by Russian trolls and media.

Moreover, the disinformation has sought to implicate the C.D.C. in a cover-up. For years, tweets originating in St. Petersburg have claimed that the health agency muzzled a whistle-blower to hide evidence that vaccines cause autism, especially in male African-American infants. Medical experts have dismissed the allegation, but it reverberated.

In a series of 2015 tweets, Russian trolls promoted a video of a black minister in Los Angeles addressing a rally. “They’re not just shooting us with guns,” he told the audience. “They’re killing us with needles.” The minister and accompanying text in the video claimed that childhood immunizations had caused autism in 200,000 black children.

RT America echoed the charge. It focused on “Vaxxed: From Cover-Up to Catastrophe,” a 2016 film by Andrew Wakefield, a discredited anti-vaccine activist. When the film was pulled from the Tribeca Film Festival after a public outcry, the network aired an interview with its creators. “Can we trust the C.D.C. on vaccines?” a plug for the show asked.

Russian trolls fired off tweets containing links to the film and a fund-raising site for its promotion. One claimed that autism rates were about to skyrocket to “1 in 2” vaccinated children.

Mr. Putin’s disinformation blitz has coincided with a drop in vaccination rates among children in the United States and a rise in measles, a disease once considered vanquished. The virus, especially in infants and young children, can cause fevers and brain damage. Last year, according to the C.D.C., the United States had 1,282 new cases, a record in recent decades; of these, 128 involved hospitalizations and 61 resulted in major complications such as pneumonia and encephalitis.

The new threat

The Moscow site that retweeted the coronavirus blog in February belongs to a Russian news outlet called The Russophile. It is tauntingly bold. The author portrait on its Twitter page shows an unidentifiable soldier in green fatigues holding an orange tabby cat. The background image is a colorized Kremlin mosaic. The site calls itself a “news feed from free (= not owned by the globalist elite) media.”

On the site’s About page, under the heading “Some more reasons for our existence,” is a quote attributed to President Abraham Lincoln: “You can fool some of the people all of the time, and all of the people some of the time, but you cannot fool all of the people all of the time.”

The website lists its owner’s name as OOKremlinTrolls and its street address as an imposing building next door to the offices of Lukoil, a Russian oil giant tied to Cambridge Analytica’s digital campaigns to sway American voters. “It’s a nice part of town,” Darren L. Linvill, a Clemson University expert who uncovered the retweets, said of the Russophile address.

The site epitomizes the complicated nature of the new threat, parts of which have evolved to become more open, while others have grown stealthier. “It’s a cloud of Russian influencers,” said Dr. Linvill, a professor of communications who has studied millions of troll postings. The players, he said, probably include state actors, intelligence operatives, former RT staff members and the digital teams of Yevgeny Prigozhin, a secretive oligarch and confidant of Mr. Putin’s who financed the St. Petersburg troll farm.

The new brand of disinformation is subtler than the old. Dr. Linvill and his colleague Patrick L. Warren have argued that Mr. Putin’s new methodology seeks less to create than to curate — to retweet and amplify the existing American cacophony, raising the level of confusion and partisan discord.

Much of the disinformation, like the Russophile site, lies hidden in plain sight. But other elements embody a new sophistication that makes it increasingly hard for tech companies to ferret out the interference of Russia, or any other country. Experts say that Russian trolls may even be paying Americans to post disinformation on their behalf, to better hide their digital fingerprints.

On March 5, Lea Gabrielle, head of the State Department’s Global Engagement Center, which seeks to identify and fight disinformation, told a Senate hearing

that Moscow had pounced on the coronavirus outbreak as a new opportunity to sow chaos and division — to “take advantage of a health crisis where people are terrified.”

“The entire ecosystem of Russian disinformation has been engaged,” she reported. Her center’s analysts and partners, Ms. Gabrielle added, have found “Russian state proxy websites, official state media, as well as swarms of online false personas pushing out false narratives.”

RT America dismissed the department’s charges, which were first made in February, as “loosely detailed.” In her March testimony, Ms. Gabrielle said that her center had intentionally made public few details and examples of the disinformation, so that adversaries could not decipher “our tradecraft,” presumably in an effort to foil countermeasures.

Tass, the Russian news agency, reported that the Foreign Ministry firmly rejected the State Department’s charge. That response echoes an iron rule of disinformation. As Oleg Kalugin, a former K.G.B. general, put it in a video interview with The Times: “Deny, deny, deny — even if the truth is obvious.”

Beijing now appears to be borrowing from Mr. Putin’s playbook, at least the early drafts. It recently declared that the coronavirus was devised by Washington as a designer weapon meant to cripple China.

Mr. Putin has disseminated false and alarming health narratives not only about pathogens and vaccines but also about radio waves, bioengineered genes, industrial chemicals and other intangibles of modern life. The knotty topics often defy public understanding, making them ideal candidates for sowing confusion over what’s safe and dangerous.

Analysts see an effort not only to undermine American officials but also to accomplish something more basic: to damage American science, a foundation of national prosperity. American researchers have won more than 100 Nobel Prizes since 2000, and Russians five. Geographically, Russia is the world’s largest country, but its economy is smaller than Italy’s.

As Dr. Quinn of the University of Maryland put it, Mr. Putin’s salvos are targeting “the institutions that we rely on to understand the truth.”

[原文](#)

[返回目录](#)

This time they can see our pain

[返回目录](#)



Salt Lake City's recent protests and perspectives from a young black student.

You can call the protest violent. By the end, it was. But understand that when you do so, when all you are willing to see is the parts of activism that make you most uncomfortable, you risk drawing the conversation away from the reasons for the protests and riots, happening now with more vigor and rage than ever before.

Perhaps the worst thing we can do right now is focus on riots and looting yet remain silent about the murders, the racism, white supremacy and the longstanding inability of our society to protect and respect black lives.

Attending Saturday's downtown protest was, for me, an act of listening to and trying to understand our black community and their anger, hurt and resilience. Some white protestors were clearly there to advance their own agendas and express personal rage, but watching hundreds of people—groups of friends, siblings, whole families—march or drive around downtown and up to the state capitol to demonstrate was to observe the important practice of allyship.

<https://guidetoallyship.com/>

Organized by Utah Against Police Brutality, the car caravan rally route began in front of the Public Safety building just east of the Downtown Library. I ended up near the end of the long lanes of participants, stuck in traffic near the intersection of State Street and 500 South. Here, the view was incredible. People spilled out of car windows and poked out of sunroofs. Signs read “Stop killing black people,” “Silence is violence” and “My skin is not a weapon.” Chanters called “Black lives matter!” and “No justice, no peace, no racist police.”



Many people, most wearing masks, had given up their cars and were walking at that point, and we honked and waved at them as they passed. Did everyone know where they were going? We moved together, as one, like a school of fish, strong and able to protect itself from predators.

Even as the tune changed and different factions grew violent as police moved in, it was clear that, for whites, this gathering was about listening and trying to understand.

In my post-protest discussions, one black friend said that for some time now he's felt as if he was watching something like the genocide of his own people, as images and videos of dead black bodies filter across phone and tv screens with grievous regularity. Another said that one of the most helpful things white people can do right now is to talk about racism. Confront it in your social circles. Listen to black people and believe them.

Thus, I realized that in writing about the protest, it is not my perspective you need to hear. Instead, I share with you the voice of one of my former students, a 15-year-old from Rwanda who moved to Utah a few years ago. He attends a predominantly white school.

Conversation with a young black student

When he first heard about George Floyd's death, his reaction centered on a realization that this was the norm—another black person was murdered by police. He explained that racial aggression and even death by police is something black people can't help but fear in daily life.

"It's always the same... what cops do to black people. We can't just be. For example, when I go to the gym, my mom, she tells me to take my hood off. She says people might think I'm a thug or whatever just because of the way that I look."

At school, not only could white friends wear their sweatshirt hoods up without having to confront that lingering association, but sometimes they'd make pointed comments at him that always felt uncomfortable.

"Every time, they're like 'Can I touch your hair?' I mean that's not racist, but it makes you feel different." Some might dismiss a question like this as inconsequential, but repeated invasive comments (known as microaggressions) can lead to a person feeling isolated, especially in largely white institutions where they might be the only ones ever asked such questions. What's more, black hair has a political history in the US.

While "black" hair is often seen as exotic or unprofessional, "white" hair is accepted as the norm: neat and professional. Many school and company dresscodes restrict historically black hairdos such as braids, dreadlocks and bantu knots. My student also discussed his hesitation at wearing his favorite hairstyle, dreads, due to his mother's fear that he might be seen as thuggish and disobedient—an inconvenient association in school and a dangerous association on the streets.

He is the hardest working teen I know, yet his economic and racial status put him at a disadvantage to succeed in many aspects of the school system.

For instance, he is an excellent soccer player and carried his school's junior

varsity team. I was certain he would be the very next pick for varsity.

“When I was sad about not making the varsity soccer team... I don’t think it was because I wasn’t good enough,” he told me. The high school team this student tried out for is nearly entirely composed of white players and is notorious for parent politics involved in the selection process. At the time, it frustrated me greatly that the coaches picked a different student over him.

Making it on varsity is extremely important to him. The more years on the school’s best team, the more likelihood of being scouted by colleges. If he doesn’t make the varsity soccer team next year, he may switch to track and field as a route to the exposure necessary for scholarships despite his enduring love for soccer.

His school certainly lacks teachers and staff of color, but the silence of his white teachers is what bothers him most. “My teachers don’t talk about [race]. They fear to talk about it. When it comes up, they go silent.”

Regarding the late May protest, he said he wanted to go but “for me, that’s taking a big risk.”

He might wish he could go to the protest. He also wishes he could wear dreads without his mother fearing for his life.

But when the police see you differently, he acknowledged, that’s when it becomes the deadliest problem.

“I try to be good to everybody at school. But I can’t always take the time to explain [my experiences with racism] to everyone. Sometimes I can see they don’t believe me,” he confessed.

“But to be honest, I love these protests. A good thing I see right now is that this time, there are white people there. This time they can see our pain.

“At the end of the year, when I go back to school, people are going to understand better. Maybe they will listen.”

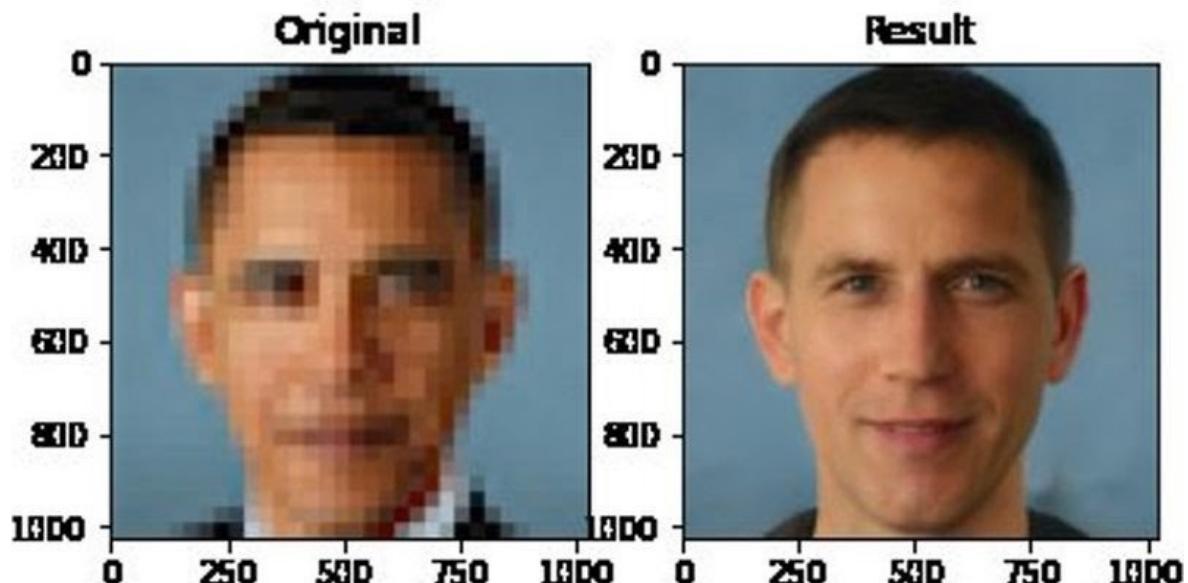
Emily Spacek is a CATALYST staff writer.

[原文](#)

[返回目录](#)

What a machine learning tool that turns Obama white can (and can't) tell us about AI bias

[返回目录](#)



The PULSE algorithm takes pixelated faces and turns them into high-resolution images.

It's a startling image that illustrates the deep-rooted biases of AI research. Input a low-resolution picture of Barack Obama, the first black president of the United States, into an algorithm designed to generate depixelated faces, and the output is a white man.

It's not just Obama, either. Get the same algorithm to generate high-resolution

images of actress Lucy Liu or congresswoman Alexandria Ocasio-Cortez from low-resolution inputs, and the resulting faces look distinctly white. As one popular tweet quoting the Obama example put it: “This image speaks volumes about the dangers of bias in AI.”

But what’s causing these outputs and what do they really tell us about AI bias?

First, we need to know a little a bit about the technology being used here. The program generating these images is an algorithm called PULSE, which uses a technique known as upscaling to process visual data. Upscaling is like the “zoom and enhance” tropes you see in TV and film, but, unlike in Hollywood, real software can’t just generate new data from nothing. In order to turn a low-resolution image into a high-resolution one, the software has to fill in the blanks using machine learning.

In the case of PULSE, the algorithm doing this work is StyleGAN, which was created by researchers from NVIDIA. Although you might not have heard of StyleGAN before, you’re probably familiar with its work. It’s the algorithm responsible for making those eerily realistic human faces that you can see on websites like ThisPersonDoesNotExist.com; faces so realistic they’re often used to generate fake social media profiles.



A sample of faces created by StyleGAN, the algorithm that powers PULSE. What PULSE does is use StyleGAN to “imagine” the high-res version of pixelated inputs. It does this not by “enhancing” the original low-res image, but by generating a completely new high-res face that, when pixelated, looks the same as the one inputted by the user.

This means each depixelated image can be upscaled in a variety of ways, the same way a single set of ingredients makes different dishes. It’s also why you can use PULSE to see what Doom guy, or the hero of Wolfenstein 3D, or even the crying emoji look like at high resolution. It’s not that the algorithm is “finding” new detail in the image as in the “zoom and enhance” trope; it’s instead inventing new faces that revert to the input data.

This sort of work has been theoretically possible for a few years now, but, as is often the case in the AI world, it reached a larger audience when an easy-to-run version of the code was shared online this weekend. That’s when the racial disparities started to leap out.

PULSE’s creators say the trend is clear: when using the algorithm to scale up pixelated images, the algorithm more often generates faces with Caucasian

features.

“THIS BIAS IS LIKELY INHERITED FROM THE DATASET”

“It does appear that PULSE is producing white faces much more frequently than faces of people of color,” wrote the algorithm’s creators on Github. “This bias is likely inherited from the dataset StyleGAN was trained on [...] though there could be other factors that we are unaware of.”

In other words, because of the data StyleGAN was trained on, when it’s trying to come up with a face that looks like the pixelated input image, it defaults to white features.

This problem is extremely common in machine learning, and it’s one of the reasons facial recognition algorithms perform worse on non-white and female faces. Data used to train AI is often skewed toward a single demographic, white men, and when a program sees data *not* in that demographic it performs poorly. Not coincidentally, it’s white men who dominate AI research.

But exactly what the Obama example reveals about bias and how the problems it represents might be fixed are complicated questions. Indeed, they’re so complicated that this single image has sparked heated disagreement among AI academics, engineers, and researchers.

On a technical level, some experts aren’t sure this is even an example of dataset bias. The AI artist Mario Klingemann suggests that the PULSE selection algorithm itself, rather than the data, is to blame. Klingemann notes that he was able to use StyleGAN to generate more non-white outputs from the same pixelated Obama image, as shown below:

These faces were generated using “the same concept and the same StyleGAN model” but different search methods to Pulse, says Klingemann, who says we can’t really judge an algorithm from just a few samples. “There are probably millions of possible faces that will all reduce to the same pixel pattern and all of them are equally ‘correct,’” he told *The Verge*.

(Incidentally, this is also the reason why tools like this are unlikely to be of use for surveillance purposes. The faces created by these processes are imaginary and, as the above examples show, have little relation to the ground truth of the input. However, it’s not like huge technical flaws have stopped police from

adopting technology in the past.)

But regardless of the cause, the outputs of the algorithm seem biased — something that the researchers didn't notice before the tool became widely accessible. This speaks to a different and more pervasive sort of bias: one that operates on a social level.

"PEOPLE OF COLOR ARE NOT OUTLIERS. WE'RE NOT 'EDGE CASES' AUTHORS CAN JUST FORGET."

Deborah Raji, a researcher in AI accountability, tells *The Verge* that this sort of bias is all too typical in the AI world. "Given the basic existence of people of color, the negligence of not testing for this situation is astounding, and likely reflects the lack of diversity we continue to see with respect to who gets to build such systems," says Raji. "People of color are not outliers. We're not 'edge cases' authors can just forget."

The fact that some researchers seem keen to only address the data side of the bias problem is what sparked larger arguments about the Obama image. Facebook's chief AI scientist Yann LeCun became a flashpoint for these conversations after tweeting a response to the image saying that "ML systems are biased when data is biased," and adding that this sort of bias is a far more serious problem "in a deployed product than in an academic paper." The implication being: let's not worry too much about this particular example.

Many researchers, Raji among them, took issue with LeCun's framing, pointing out that bias in AI is affected by wider social injustices and prejudices, and that simply using "correct" data does not deal with the larger injustices.

EVEN "UNBIASED" DATA CAN PRODUCE BIASED RESULTS

Others noted that even from the point of view of a purely technical fix, "fair" datasets can often be anything but. For example, a dataset of faces that accurately reflected the demographics of the UK would be predominantly white because the UK is predominantly white. An algorithm trained on this data would perform better on white faces than non-white faces. In other words, "fair" datasets can still create biased systems. (In a later thread on Twitter, LeCun acknowledged there were multiple causes for AI bias.)

Raji tells *The Verge* she was also surprised by LeCun's suggestion that

researchers should worry about bias less than engineers producing commercial systems, and that this reflected a lack of awareness at the very highest levels of the industry.

“Yann LeCun leads an industry lab known for working on many applied research problems that they regularly seek to productize,” says Raji. “I literally cannot understand how someone in that position doesn’t acknowledge the role that research has in setting up norms for engineering deployments.”

When contacted by *The Verge* about these comments, LeCun noted that he’d helped set up a number of groups, inside and outside of Facebook, that focus on AI fairness and safety, including the Partnership on AI. “I absolutely never, ever said or even hinted at the fact that research does not play a role in setting up norms,” he told *The Verge*.

Many commercial AI systems, though, are built directly from research data and algorithms without any adjustment for racial or gender disparities. Failing to address the problem of bias at the research stage just perpetuates existing problems.

In this sense, then, the value of the Obama image isn’t that it exposes a single flaw in a single algorithm; it’s that it communicates, at an intuitive level, the pervasive nature of AI bias. What it *hides*, however, is that the problem of bias goes far deeper than any dataset or algorithm. It’s a pervasive issue that requires much more than technical fixes.

As one researcher, Vidushi Marda, responded on Twitter to the white faces produced by the algorithm: “In case it needed to be said explicitly - This isn’t a call for ‘diversity’ in datasets or ‘improved accuracy’ in performance - it’s a call for a fundamental reconsideration of the institutions and individuals that design, develop, deploy this tech in the first place.”

[原文](#)

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