

# Nowhere to Hide: Algorithms Are Learning to ID Pixelated Faces

The new tech can identify faces or numbers even if they've been blurred out.

// BY AVERY THOMPSON SEP 13, 2016





YAGI STUDIO / GETTY IMAGES



Blurring or pixelating information to obscure it may not work anymore thanks to machine learning researchers from the University of Texas at Austin and Cornell University. The researchers developed an algorithm that could identify faces and numbers even after they were blurred out.

The researchers developed the algorithm using open-source machine-learning software. Said co-author Vitaly Shmatikov to Quartz:

---

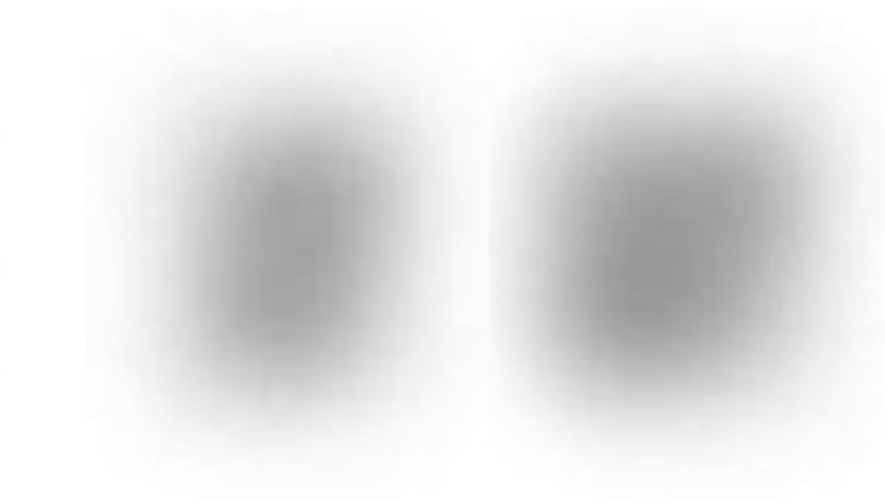
#### MORE FROM POPULAR MECHANICS

### Easy 3M Tape Dispenser



"We're using this off-the-shelf, poor man's approach. Just take a bunch of training data, throw some neural networks on it, throw standard image recognition algorithms on it, and even with this approach...we can obtain pretty good results."

The algorithm is built using a very simple process. Using the open-source software and standard neural network templates, the researchers could feed the algorithm thousands of examples of faces that have been blurred or pixelated to train it.



Faces, like the one on the left, blurred with YouTube's blur feature, in the center and right, are still recognizable to a machine-learning algorithm.

MCPHERSON ET AL.

The algorithm's success rate varied based on the type of blurring or pixelating used, but in general it could match a blur with the correct face more than half the time, compared with less than a 10 percent success rate for human guessers. This method also works with pixelation and P3 image encryption.

The goal of the research is to illustrate vulnerabilities in standard image encryption. "Until somebody shows how even off-the-shelf technology can be used for privacy breaches, people in security and privacy aren't going to realize it," says Shmatikov.

For instance, YouTube currently provides blurring software for hiding the identities of video subjects, but the researchers would like YouTube to specify that it doesn't work on machines. Anyone with enough time, computing power, and knowhow could easily identify people with blurred faces in YouTube videos.

Source: [Quartz](#)

---

## Need to know the biggest scientific breakthroughs in our galaxy?

Get our newsletter for most fascinating space insights.

Enter your email address.

I'M IN.

---

### MORE FROM

# SECURITY



**USPS May Be Working On Blockchain-Based Voting**



**How to Spot Deepfakes**

ADVERTISEMENT - CONTINUE READING BELOW

[Other Hearst Subscriptions](#)


[Give a Gift](#)

[Events & Promotions](#)

[Giveaways](#)

[Being Green](#)

[BestProducts](#)

 **Hearst Men's and  
Enthusiast Media  
Group - A Part of  
Hearst Digital Media**

A Part of Hearst Digital Media

Popular Mechanics participates in various affiliate marketing programs, which means we may get paid commissions on editorially chosen products purchased through our links to retailer sites.

©2020 Hearst Magazine Media, Inc. All Rights Reserved.

[Privacy Notice](#)

[Your California Privacy Rights](#)

[Interest-Based Ads](#)

[Terms of Use](#)

[Site Map](#)

[Do Not Sell My Info](#)



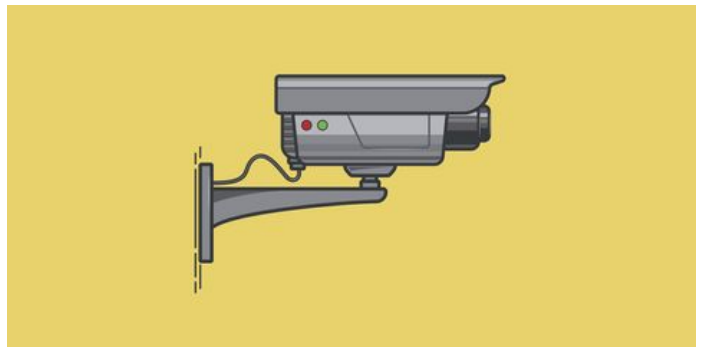
**Face Masks Are Thwarting Facial Recognition Tech**



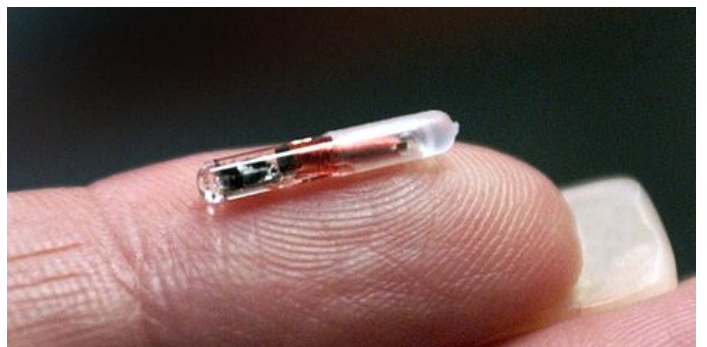
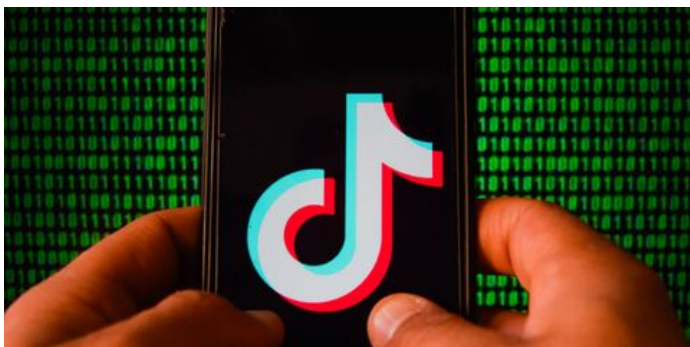
**Russian Hackers Are Targeting COVID-19 Researchers**



**Don't Close Your MacBook With a Webcam Cover On**



**Your Security Cameras Could Be Snitching On You**





### Why the Trump Administration May Ban TikTok

### Michigan Wants to Prevent Mandatory Microchipping



### Disney Is Getting Into the Deepfake Game



### Are You Under Surveillance on Vacation?

SECURITY

NEW TECHNOLOGY

THIS IS HOW ALGORITHMS WILL EVOLVE THEMSELVES

ALGORITHM GUESSES YOUR TRUE AGE BY SCANNING YOUR FACE

AN ALGORITHM BUILT THESE DYSTOPIAN CITYSCAPES

FBI'S NEXT-GEN ID DATABANK TO STORE FACE SCANS—A GOOD IDEA?

HOW TO HIDE UGLY GARBAGE CANS

HOW TO HIDE A TV'S UNSIGHTLY WIRES

# POPULAR MECHANICS



Newsletter

Digital Editions

About Us

Media Kit

Press Room

Contact Us

Community Guidelines

Advertise Online

Customer Service

Subscribe