

THE FUTURE OF TECHNOLOGY & ITS EFFECT ON THE LEGAL PROFESSION

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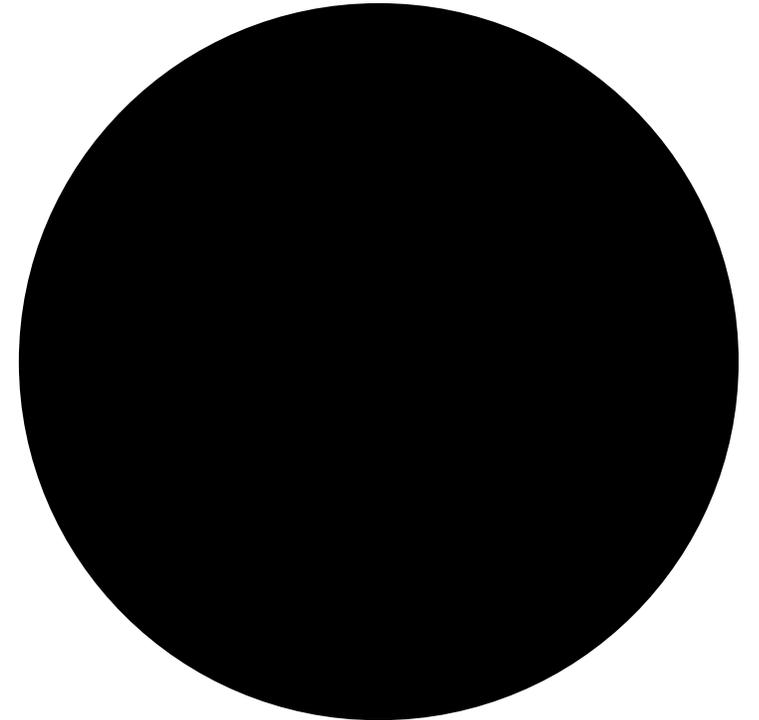
JANETTE SMITH

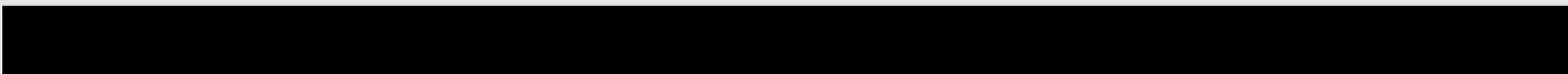
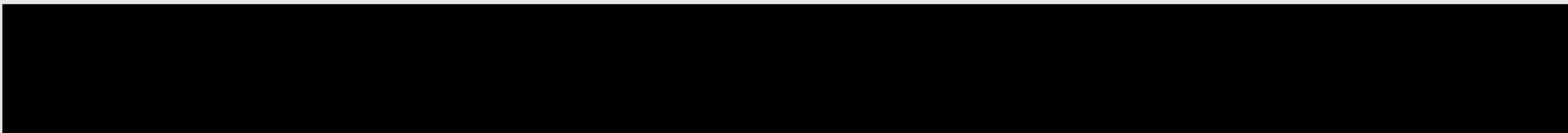
Founding Attorney
Janette M. Smith, P.A.



This session will discuss the hottest topics in tech and how they impact the practice of law. Topics include alternative client communication apps like Messenger and Telegram and which ones are secure, and whether voice-activated devices like Amazon's Alexa are recording your office conversations. We will also analyze the explosive growth of surveillance and widely available graphics editing tools that can easily doctor evidence beyond FBI detection. The conversation will also examine the coming age of big data with a focus on the increasing role of trade secret algorithms to determine many of our daily functions, and how attorneys can be on the lookout for these issues in their cases.

Session Overview



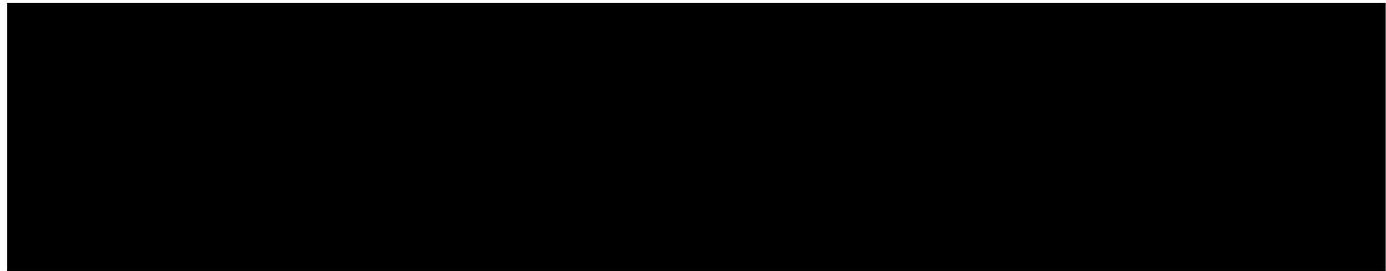


IOT DEFINED



<https://www.cisco.com/c/dam/en/us/products/collateral/se/internet-of-things/at-a-glance-c45-731471.pdf>

<https://marcelshaw.com/2015/06/three-reasons-you-need-itam-for-the-internet->

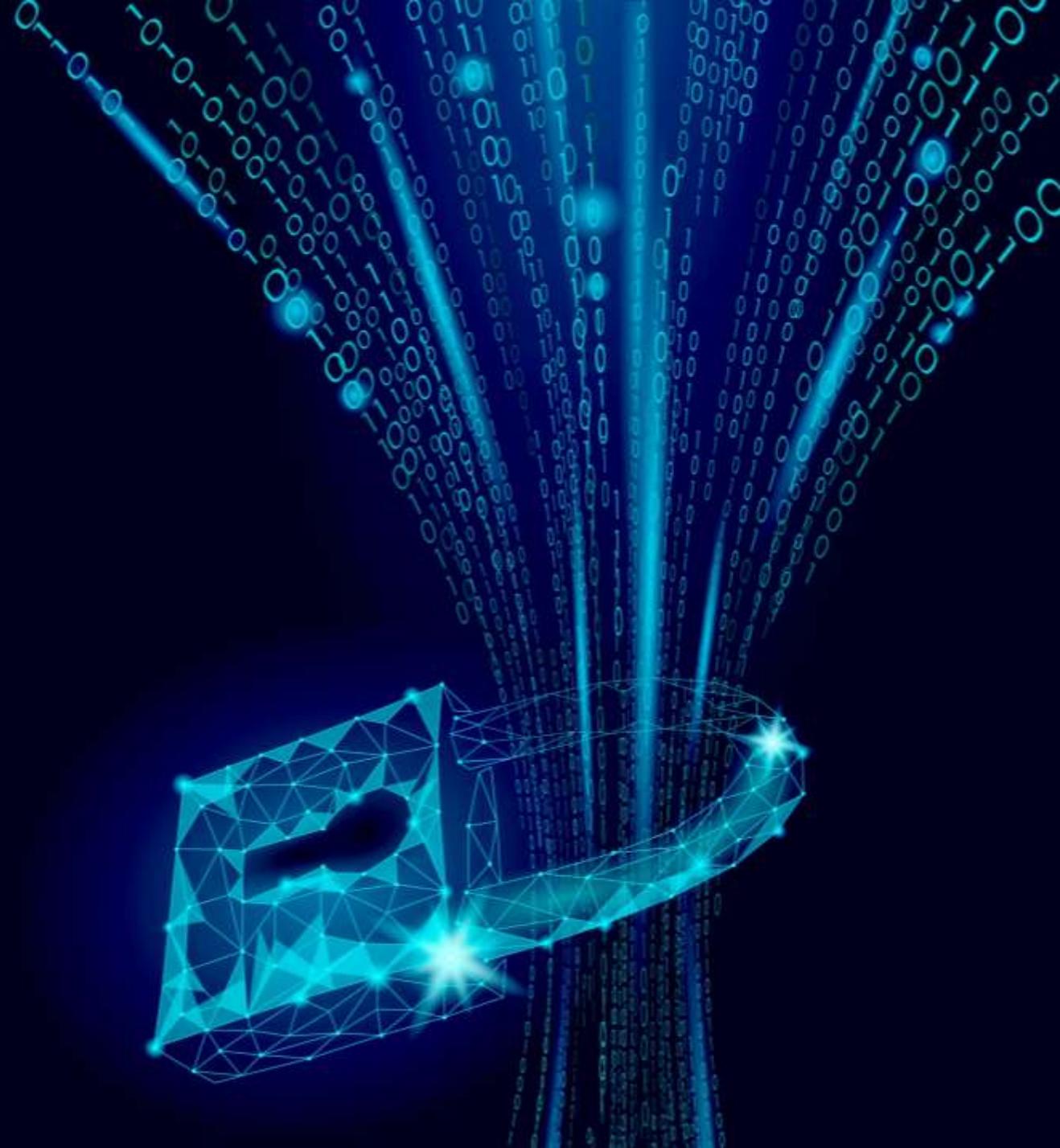


- Smartphones serve as an IoT hub
- Gartner forecasts 25B IoT-based devices installed by 2020 with 6.8B in smart cities
- Spending by governments worldwide on technology products and services is forecast to grow from to \$476.1B by 2020
- New and innovative technologies are being introduced, changing the way we track and interact with citizens. This is the next stage in building a responsive digital government.

Columbus, Louis. "Gartner's 10 Strategic Technologies For Government, 2016 Include Internet Of Things, Smart Machines". *Forbes.Com*, 2016, <https://www.forbes.com/sites/louiscolombus/2016/07/03/gartners-10-strategic-technologies-for-government-2016-include-internet-of-things-smart-machines/#785dbda91995>.



- Mobile Phones
- Smart TVs & Appliances
- Wearables
- Smart Cars
- Digital Assistants
 - Siri
 - Alexa
 - Cortana
 - Bixby
- Location Detection
 - Mobile Device
 - Cars



YOU ARE BEING TRACKED

- Amazon, Apple, Google and now the DHS are tracking our every move
- This evidence may be subpoenaed
- What are they tracking?
- Where is it stored?
- How do you delete it?
- How do you turn it off?

DHS to Move Biometric Data on Hundreds of Millions of People to Amazon Cloud



KTSDSIGN/SHUTTERSTOCK.COM



By Jack Corrigan,
Staff Correspondent,
Nextgov

JUNE 19, 2019

The department seeks a new platform to identify people using fingerprints, irises and faces, and eventually DNA, palm prints, scars and tattoos.

BIOMETRICS

CLOUD

HOMELAND SECURITY



Facebook
Messenger

Instagram

Twitter

LinkedIn

Snapchat

WhatsApp

WeChat

Telegram

Signal

Slack

Asana



- When you “backup” your device, you are storing a copy of all your data in someone’s data center.
- Networks of data centers are called “the cloud”.
- When you erase or “wipe” your device, all your data still lives in the cloud.
- Deleting all data stored in your cloud provider (e.g. iCloud) should delete your data. Wikileaks and Snowden report the gov’t always keeps a copy.
- Deleting data stored on a P2P network is like a game of whack-a-mole. It may never be deleted.

Device Erasure ≠ Data Erasure

WHAT ARE WE DOING WITH ALL THIS DATA?

PROGRESSIVE USES

- Network Science
- Predictive Analytics
- Traffic Mapping
- Energy Distribution
- Fraud Detection



OPPRESSIVE USES

- Discriminatory Practices
- Predictive Policing
- Data Laundering
- Mass Surveillance
- Social Credit Systems

Civil Unrest

Criminal
Sentencing

Hiring Practices

Weather

Credit Scoring

Time of Death

Shopping
Behavior

Crowd-Sourced
Information

Predictive
Policing

The Fourth Industrial Revolution

Big Data Analyzed by Algorithms Power Our Lives

Mass
Surveillance

Trial Attorney
Success Rates

Search
Rankings

Robo-Trading

Insurance Rates

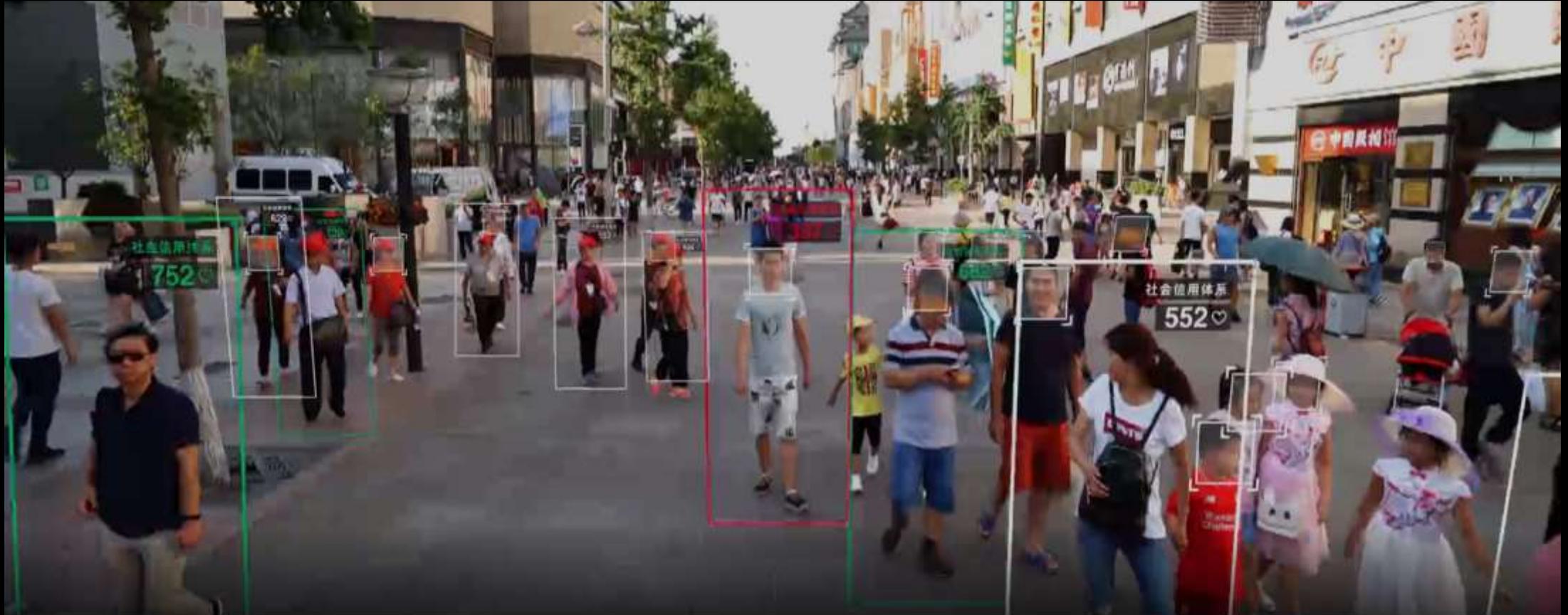
News Feed

Date Matching

Lending
Decisions

Self-Driving
Vehicles

When Big Brother Meets Big Data: The Growing Surveillance State



Leave no dark corner



ABC News (Australia) ✓
Published on Sep 18, 2018

China is building a digital dictatorship to exert control over its 1.4 billion citizens. For some, "social credit" will bring privileges — for others, punishment.

By China correspondent Matthew Carney

Amazon Rekognition Surveils Orlando

- Orlando police test Amazon's facial recognition software that turns street cameras into face-scanning machines
- The only constraint is available network bandwidth
- When a photo of a person of interest is uploaded, the system creates a unique biometric of the image and scans all street cameras until it finds a match and notifies police



By DAVID HARRIS

ORLANDO SENTINEL

OCT 18, 2018

5:30 PM

Orlando Sentinel
NOW

Traffic Cam 352 - Riverview West
Northbound

Person 1
Car
Dog
Person 2
Person 4
Person 5

AWS 기반
인공지능 비디오 분석 서비스 소개

Ranju Das
Amaz
AWS

#OSNow

Orlando plans to continue test of Amazon program
NEXT: Girl with Cerebral palsey walks for first time

Orlando and its police department plan to continue testing Amazon's high-tech facial recognition software, according to a memo sent to Mayor Buddy Dyer and the City Council Friday.

“Amazon Rekognition performs better on lighter-skinned faces than darker-skinned faces with an accuracy difference of 11.45 percent. It also performs better on male faces than female faces with an accuracy difference of 16.47 percent.”

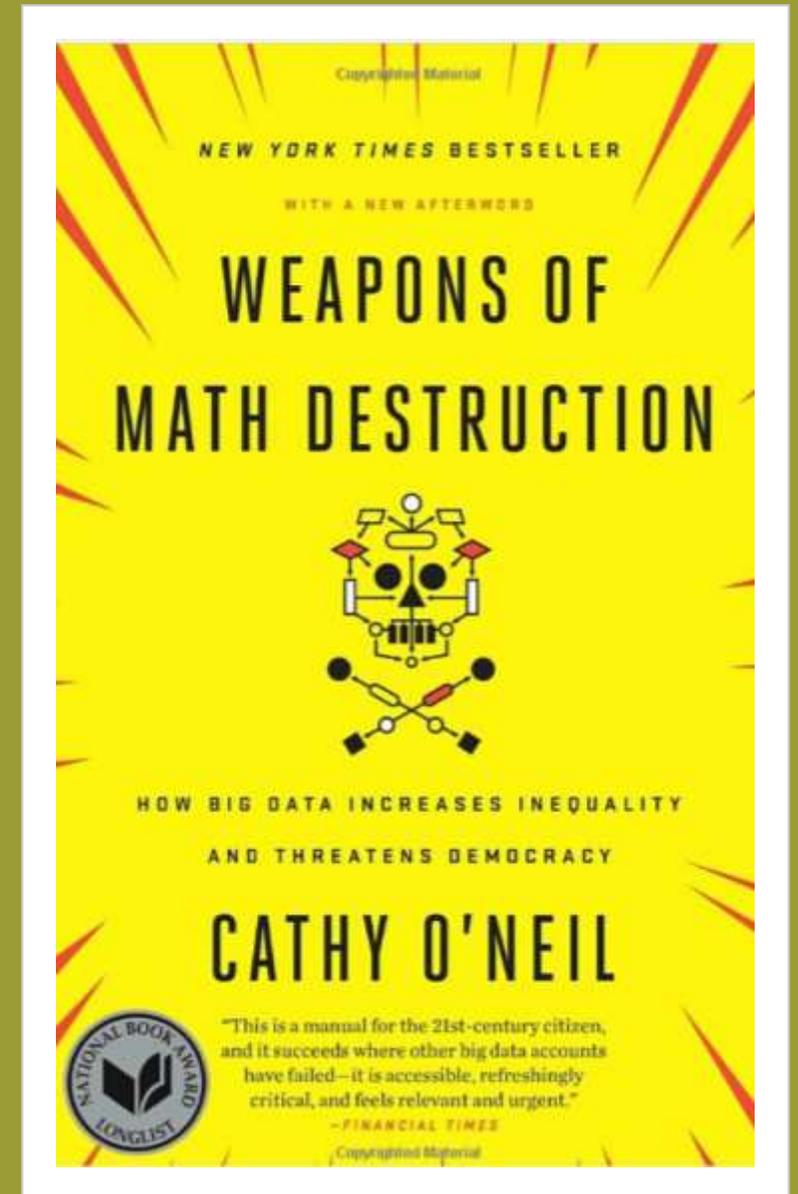
*Joy Buolamwini,
Founder Algorithmic Justice League*



“This kind of ... technology is akin to police walking through a public protest and making everyone show their identification. We would be appalled if that was permitted ... [Now] law enforcement can do that in secret...”

*Clare Garvie,
Center on Privacy & Technology*

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- “A lot can go wrong when we put blind faith in big data”
 - Algorithms sort winners and losers
 - Winners get the job interview, the credit card offer or the better insurance rate
 - To build an algorithm you need data from the past and a definition of success
 - Algorithms are opinions embedded in code and may not be objective, true or scientific
 - Algorithms repeat our past patterns and automate the status quo, which is great if we have a perfect world, but we don’t
 - Solution is to interrogate the algorithms and their data for fairness





- Fox News Founder Roger Ailes ousted in 2016
- 20+ women complained of sexual harassment
- Replaced hiring process with machine learning algorithm
- Data was last 20 years of applications accepted
- Definition of success was someone who stayed there for 4 years and was promoted at least once
- Algorithm filtered out women because they didn't look like people successful in the past

Blackbox
Algorithms
Sentence
Blacks 2x
More than
Whites

There are three main criminal justice algorithm systems used across America for criminal sentencing

COMPAS: Correctional Offender Management Profiling for Alternative Sanctions (at use in Florida)

PSA: Public Safety Assessment

LSI-R: Level of Service Inventory Revised



- A 2016 investigation by ProPublica found that COMPAS flags black defendants as future criminals at nearly twice the rate of white defendants, and was only 20% accurate in predicting future violent crime
- ProPublica miscalculations stem from inaccurate inputs and how the factors were weighed
- Algorithms are proprietary and thus cannot be challenged which presents questions of due process

**“Data Laundering” where technologists hide ugly truths in
Blackbox algorithms and call them objective and meritocratic**



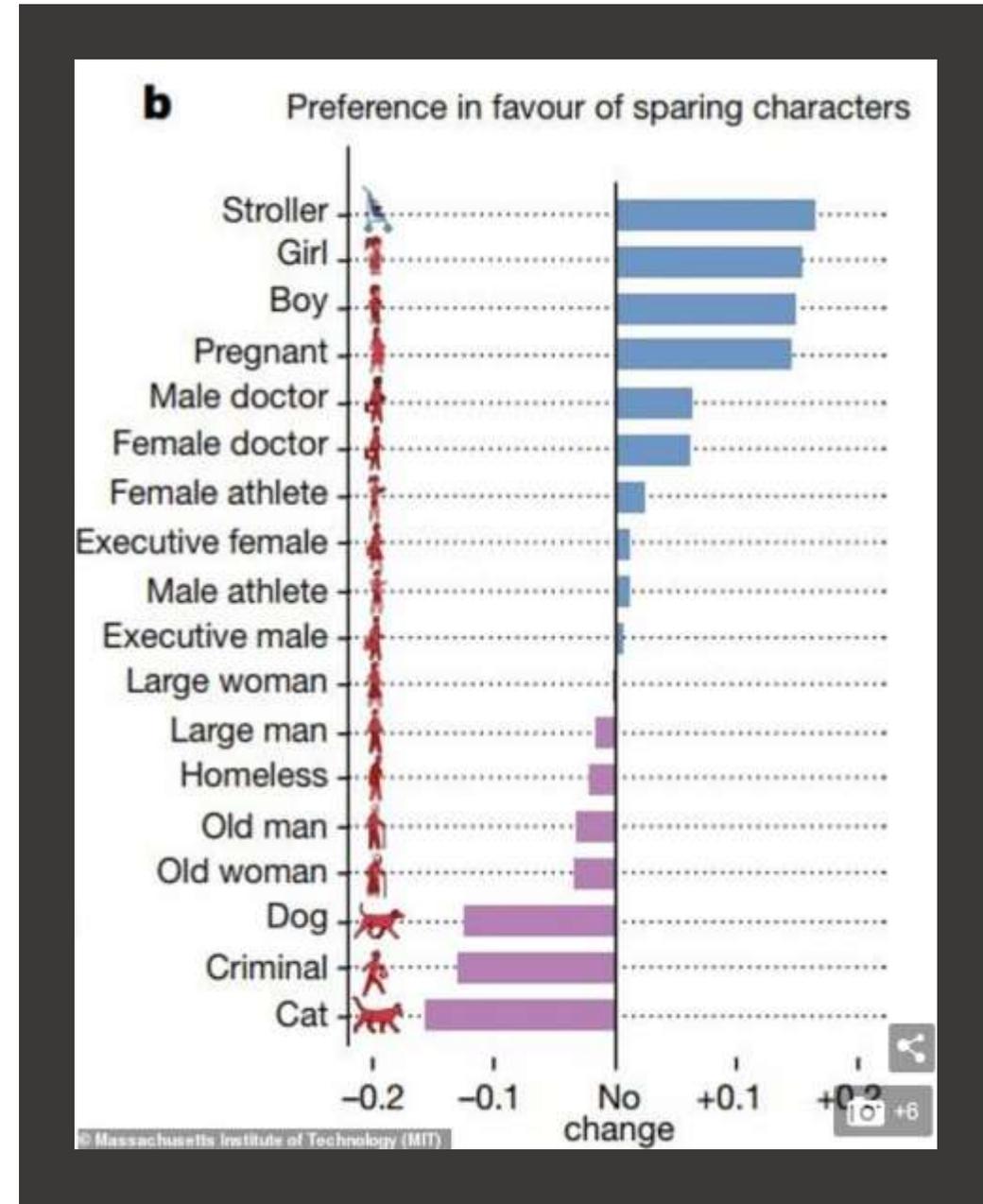
Would you save a woman, a child or a DOG in a car crash? Interactive game that reveals how people act in life or death situations is helping to develop 'moral machines' for self-driving cars

- Autonomous cars will soon need have to make ethical decisions in crashes
- A choice will be made between two groups of people in an avoidable crash
- For example, a car may have to choose between killing children or the elderly
- MIT scientists have tried to find out who people opt to save in these situations

By [JOE PINKSTONE FOR MAILONLINE](#) 

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Autonomous Vehicles:
MIT Media Labs Gamifies Who
Lives and Who Dies



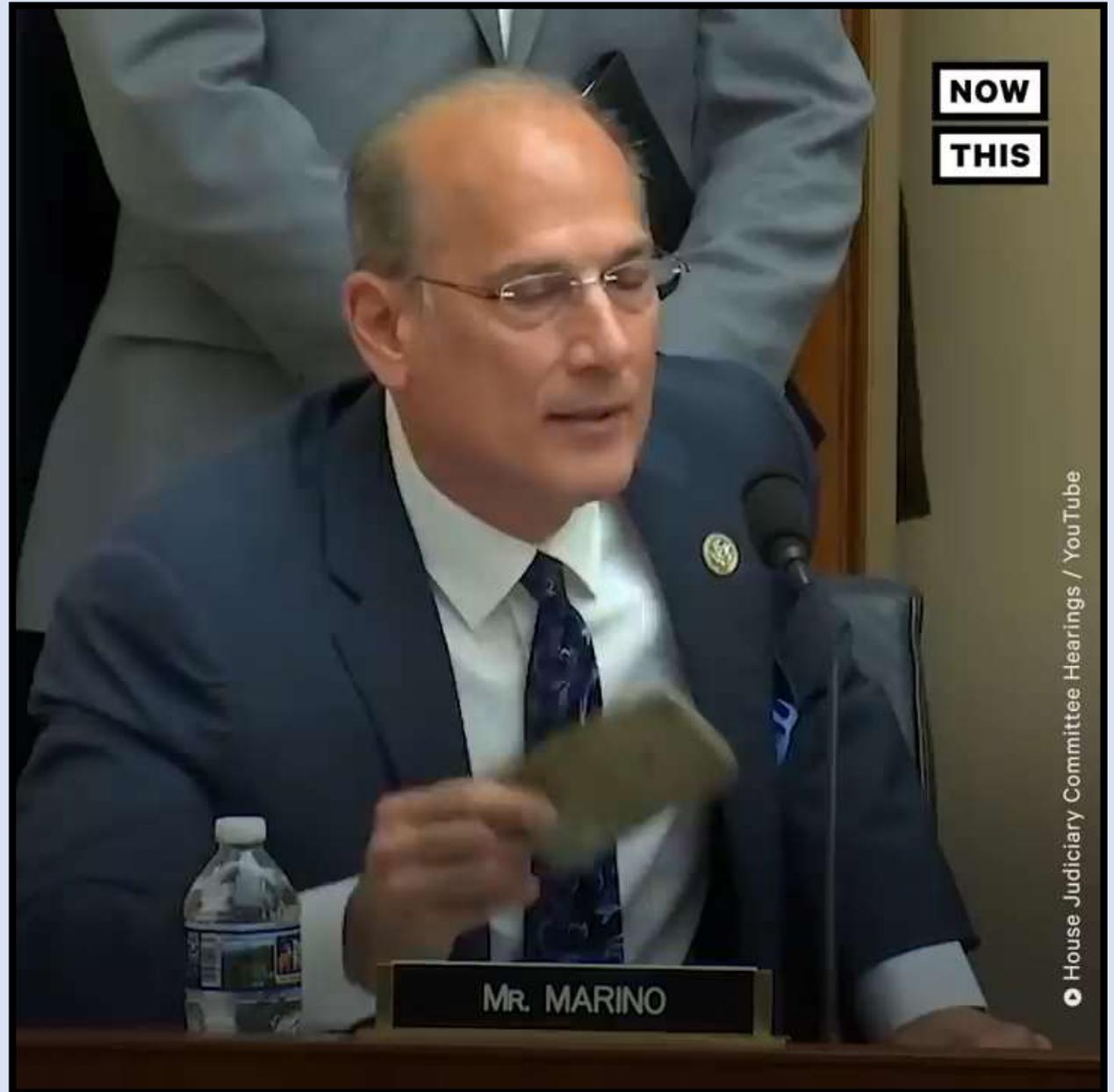
Democracy
at Risk
AI + CGI =
Deep Fakes

Deep Fakes use deep learning, a form of artificial intelligence, to create fake videos. They are made by feeding a computer an algorithm and several images and audio files of the target person. The program learns how to mimic the person's facial expressions, mannerism, voice and inflections. If you have enough video and audio of someone, you can combine fake video and audio to get them to say and do anything you want.

- Annie Palmer, Daily Mail



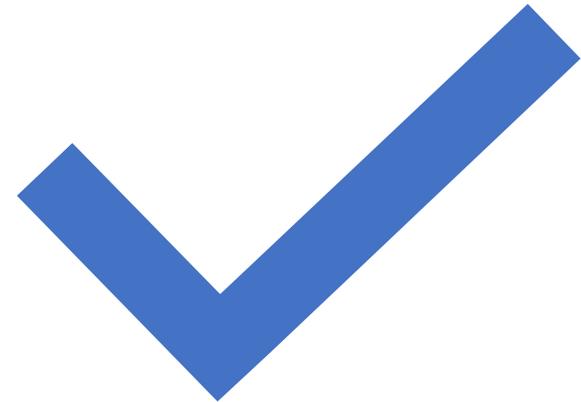
On a Lighter Note,
the Congressional
Response to
Today's Challenges
in Regulating
Technology
Provokes Much
Needed Humor



5 STEPS TO ALGORITHMIC INTEGRITY

by Cathy O'Neil

1. **Conduct a Data Integrity Check:** Understand the context of historical data and consider whether it is biased.
2. **Consider the Definition of Success:** When orchestras conducted blind auditions, the number of women hired went up by five.
3. **Consider Accuracy of the Algorithms Results:** How often does the algorithm produce errors and for whom does this model fail? What is the cost of that failure?
4. **Consider Long-term Effects:** Will the algorithm produce feedback error loops?
5. **Demand Accountability from Algorithmic Overlords**



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