Infrastructure: The Good, The Bad, and the Dangerous

NASEM Roundtable

Adopting Open Science Practices:

Researcher Perspectives on Incentives and Disincentives

September 20, 2019

Kristen Ratan

Founder, Stratos

Stratos

Strategies for Open Science

THE STRATOS MISSION IS TO BUILD OPEN SCIENCE INITIATIVES INTO A SUCCESSFUL MOVEMENT THAT ACCELERATES RESEARCH OUTCOMES

Delivering Open Science Solutions

PARTNERS AND PROJECTS

Aligning Science Across Parkinson's (ASAP)

Stratos is working with Rapid Science to help ASAP implement collaboration and open science practices in its Parkinson's disease research program.

Invest in Open Infrastructure (IOI)

Stratos is assisting this new initiative to enable durable, scalable, and long lasting open scientific and scholarly infrastructure to emerge, thrive, and deliver its benefits on a global scale.

Next Gen Library Publishing Partnership

Stratos is a key partner in Educopia's project to provide new publishing pathways for authors, editors, and readers by advancing and integrating open source publishing infrastructure to provide robust support for library publishing.

Open offers opportunities for collaboration and reuse

Closed can own, buy or sell your data

Infrastructure encodes values that will impact you

SPARC*

Landscape Analysis

The Changing Academic Publishing Industry – Implications for Academic Institutions

March 28 2019

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“Academic publishing is undergoing a major transition…from content-provision to a data analytics business….expanding beyond journals and textbooks to include research assessment systems, productivity tools, online learning management systems – complex infrastructure that is critical to conducting the end-to-end business of the university. “

- Aspesi et al

data
protection

PRIVACY
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SECRET
LAW
PRIVATE
TECHNOLOGY
INFORMATION
PERSONAL
PROTECTION
INTERNET
IDENTITY
INDIVIDUALS
RIGHTS
PERSON
IDENTIFIABLE
PERSONALITY
SHARED
AUTHORIZE
COMMUNICATION
GENERALLY
GUARANTEES
ELEMENTS
PREFERENCES
INCLUDING
NEEDED
CULTURE
VALUE
PRACTICE
REGARDING
APPROACH
FREE
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ELECTRONIC
PROBLEMS
FEDERAL
SERVICE
CIVIL
MAINTAIN
PHYSICAL
POSSIBLE
REVEAL
DESIRE
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USE
FREEDOMS
WORK
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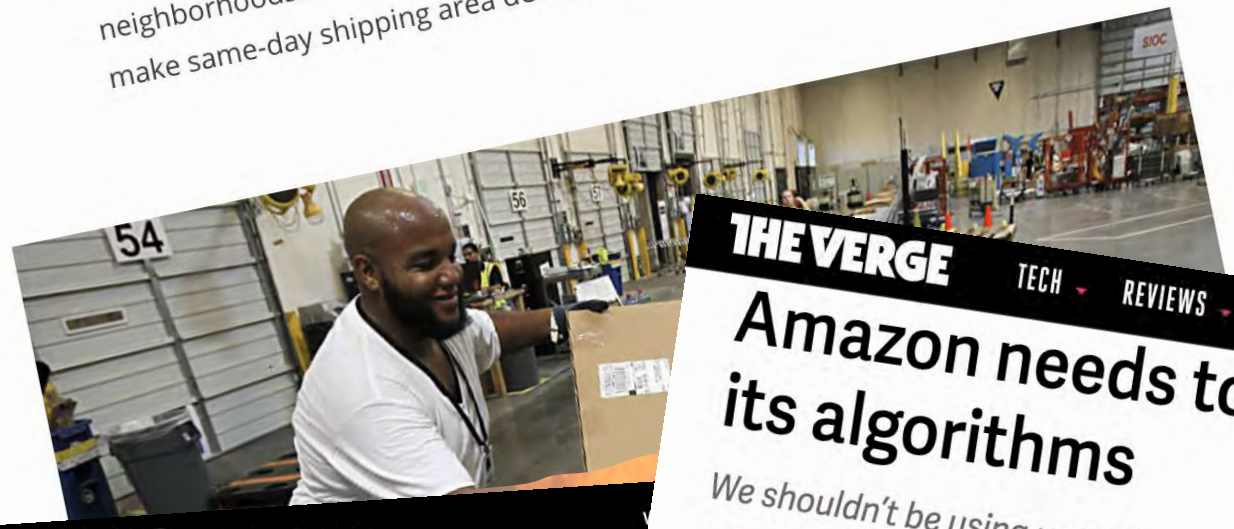
USERS
CONCEPT
SYNCHRONIZATION
INTERFERENCE
ACTS
COMPANIES
KEEP
NETWORKING
DESIGN SECRETS
WAY
STORE
LACK

TERMS OF USE

Is Amazon same-day delivery service racist?

Amazon doesn't offer same-day delivery to some poorer, black neighborhoods. Is this a result of relying too much on big data to make same-day shipping area decisions?



COMPUTERWORLD UNITED STATES

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OPINION BY PRESTON GRALLA

Amazon Prime and the racist algorithms

The company's algorithms told it where to offer its Prime Free Same-Day Delivery service, but an algorithm that uses data tainted by racism will be racist in its outcomes

REUTERS

Amazon scraps secret AI recruiting tool that showed bias against women

Jeffrey Dastin

SAN FRANCISCO (Reuters) - Amazon.com Inc's (AMZN.O) machine-learning specialists uncovered a big problem: their new recruiting engine did not like women.

THE VERGE TECH REVIEWS SCIENCE CREATORS ENTERTAINMENT VIDEO MORE

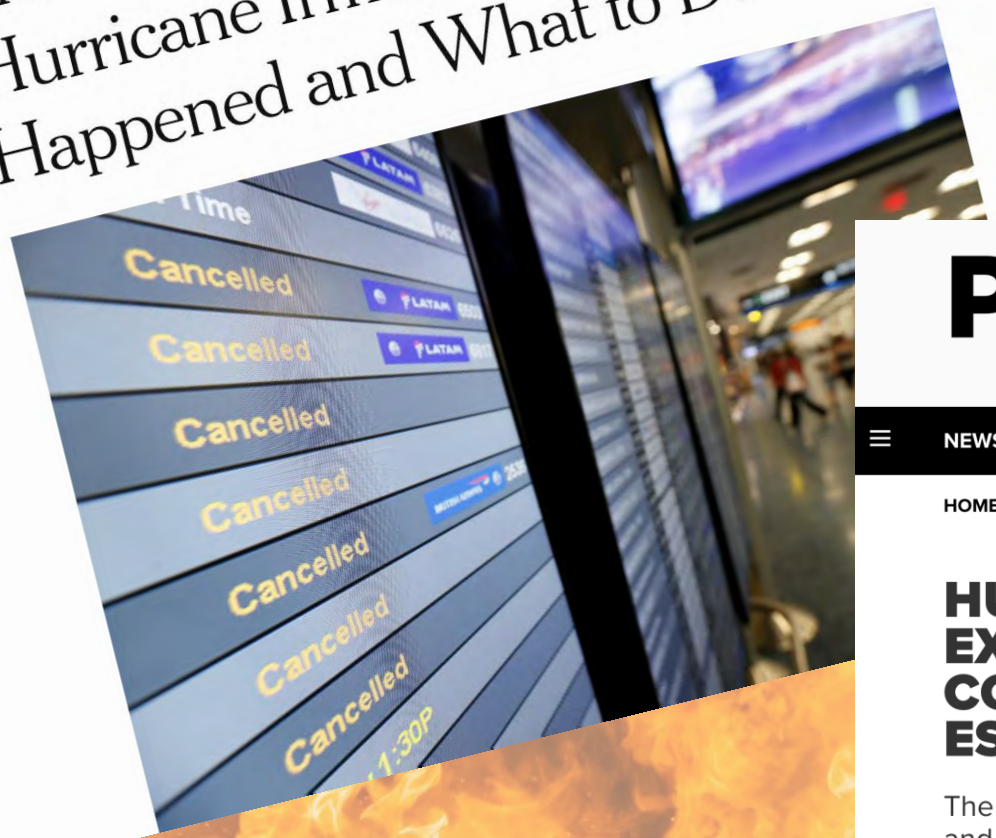
Amazon needs to come clean about racial bias in its algorithms

We shouldn't be using unaudited facial recognition systems on public streets

By Russell Brandom | May 23, 2018, 12:02pm EDT

The New York Times

‘Price Gouging’ and Hurricane Irma: What Happened and What to Do



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Irma: Airline ticket prices surge up to 600% as incoming hurricane sparks mass evacuations

The airlines contend that they have not changed their fare structures

Clark Mindock New York | @ClarkMindock ,
Simon Calder | @SimonCalder | Wednesday 6 September 2017 21:40 |

Pacific Standard

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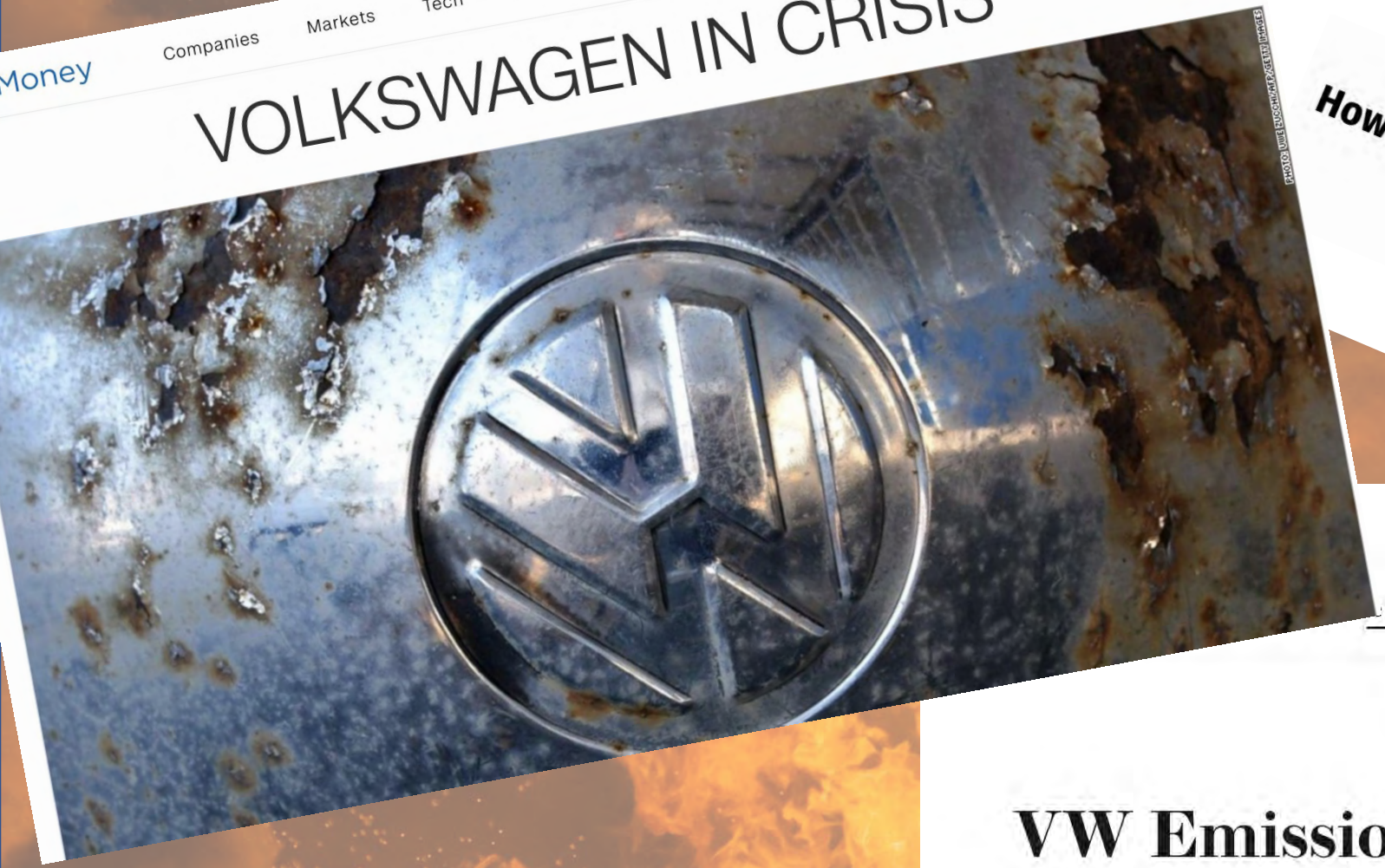
HURRICANE IRMA REVEALS EXPLOITATIVE PRICING STRATEGIES COMMON IN MANY INDUSTRIES, ESPECIALLY AIRLINES

The practice, called dynamic pricing, is intended to ration scarce goods and services, but it primarily harms consumers by making it easier for companies to fleece them.

Money Companies Markets Tech Media

VOLKSWAGEN IN CRISIS



AUTOS • VOLKSWAGEN

FORTUNE

How VW Paid $25 Billion for 'Dieselgate'—and Got Off Easy

By Roger Parloff February 6, 2018

SCIENTIFIC AMERICAN

Cart

SUSTAINABILITY EDUCATION VIDEO PODCASTS BLOGS PUBLICATIONS

E&E NEWS

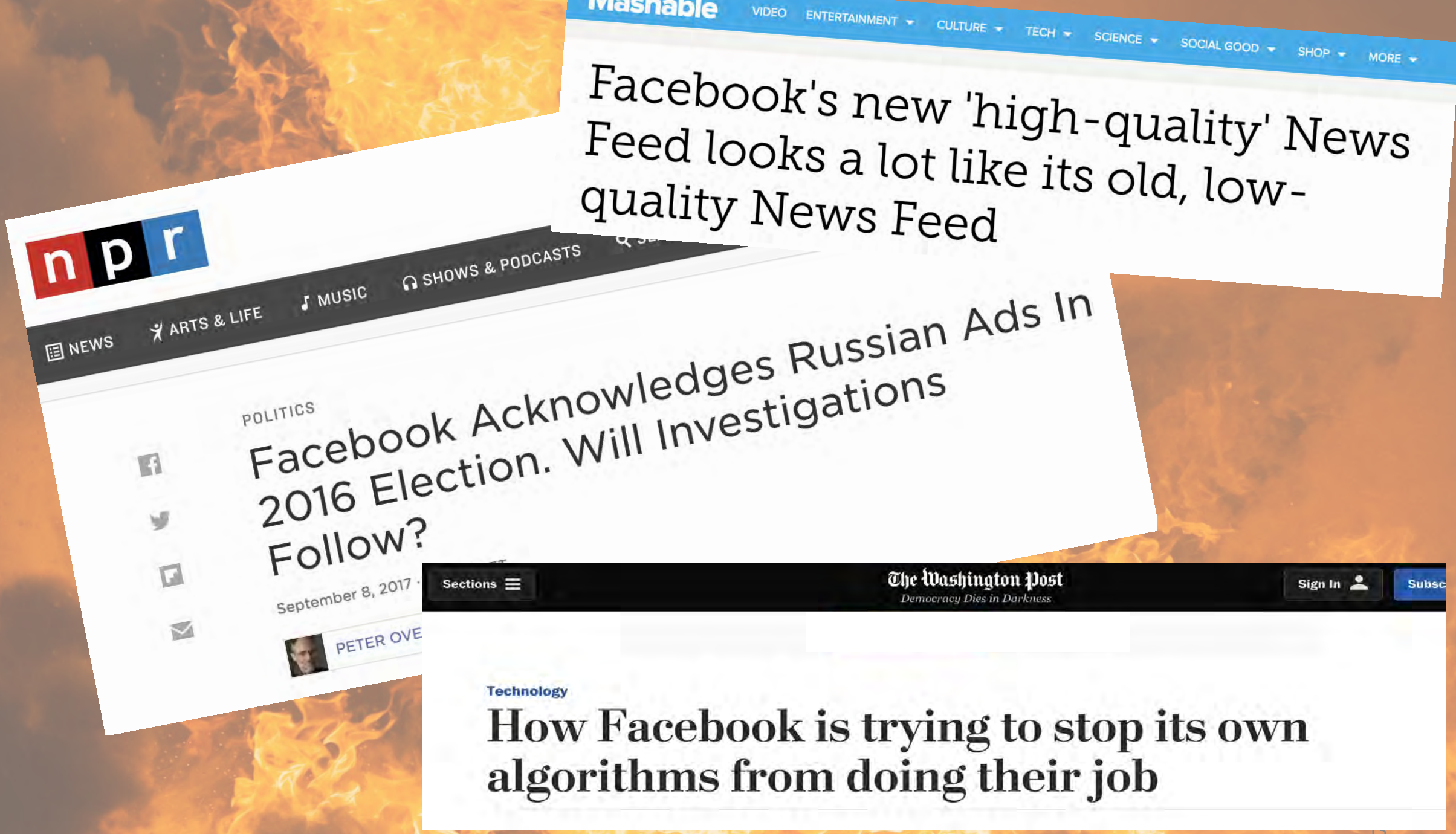
PUBLIC HEALTH

VW Emissions Cheating Scandal Increased Children's Pollution Exposure

Increased air pollution impacted low birth weights and asthma attacks, a federal economist says

Facebook acknowledged Wednesday that $100,000 of ads during the 2016 election appeared to be linked to Russia.

Noah Berger/AP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Facebook's new 'high-quality' News Feed looks a lot like its old, low-quality News Feed
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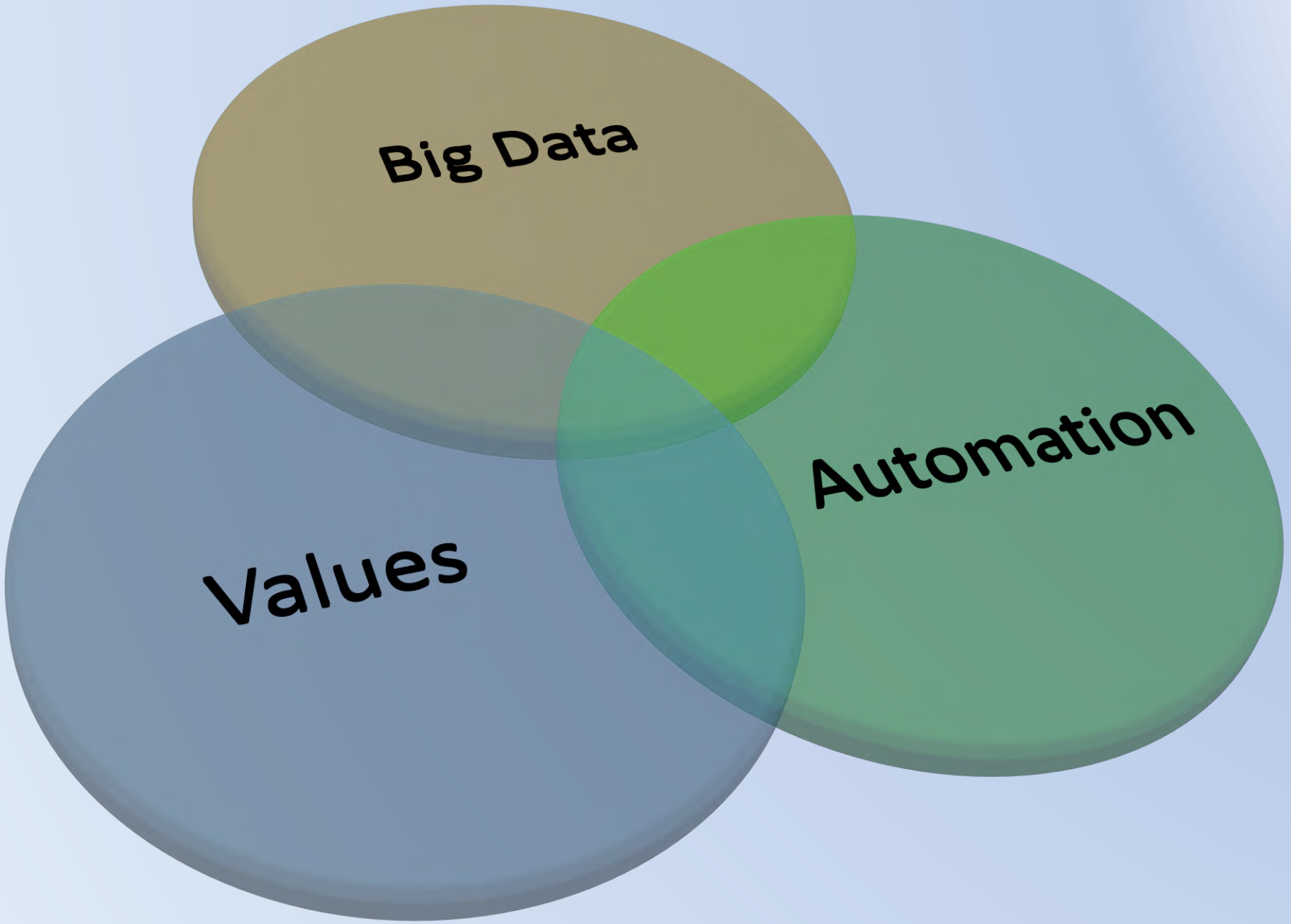

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"Evidence of software discrimination has been found in modern software systems that recommend criminal sentences, grant access to financial products, and determine who is allowed to participate in promotions."

– Galhotra et al

arXiv:1709.03221v1 [cs.SE] 11 Sep 2017

Fairness Testing:
Testing Software for Discrimination

Sainyam Galhotra Yuriy Brun Alexandra Meliou
University of Massachusetts, Amherst
Amherst, Massachusetts 01003-9264, USA

OPEN PROJECT

AI Fairness 360

The AI Fairness 360 toolkit (AIF360) is an open source software toolkit that can help detect and remove bias in machine learning models

Get the Code

DeepXplore: Automated Whitebox Testing of Deep Learning Systems

exin Pei† Yinzhi Cao‡ Junfeng Yang† Suman Jana†
†Columbia University ‡Lehigh University

https://arxiv.org/abs/1705.06640

"Current software methods do not provide a systematic way of specifying, designing and monitoring these values throughout a software development process."

-Hussain et al

2018 ACM/IEEE International Workshop on Software Fairness

Integrating Social Values into Software Design Patterns

Waqar Hussain, Davoud Mougouei, Jon Whittle
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Monash University
Clayton, Victoria, Australia
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"Actual existential threats don't repel bullets with their beefed up cyber-body. They're plain boring and could look like zipcodes, time series, or ID markers."

- Catalina Butnaru, proposing an ethical software development practice, HAI.

VALUES

Thank you!

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