AI, Deception, and Blockchains

Steve Omohundro, Ph.D.

SteveOmohundro.com

Advisor to AIBrain

Stalin's altered photographs
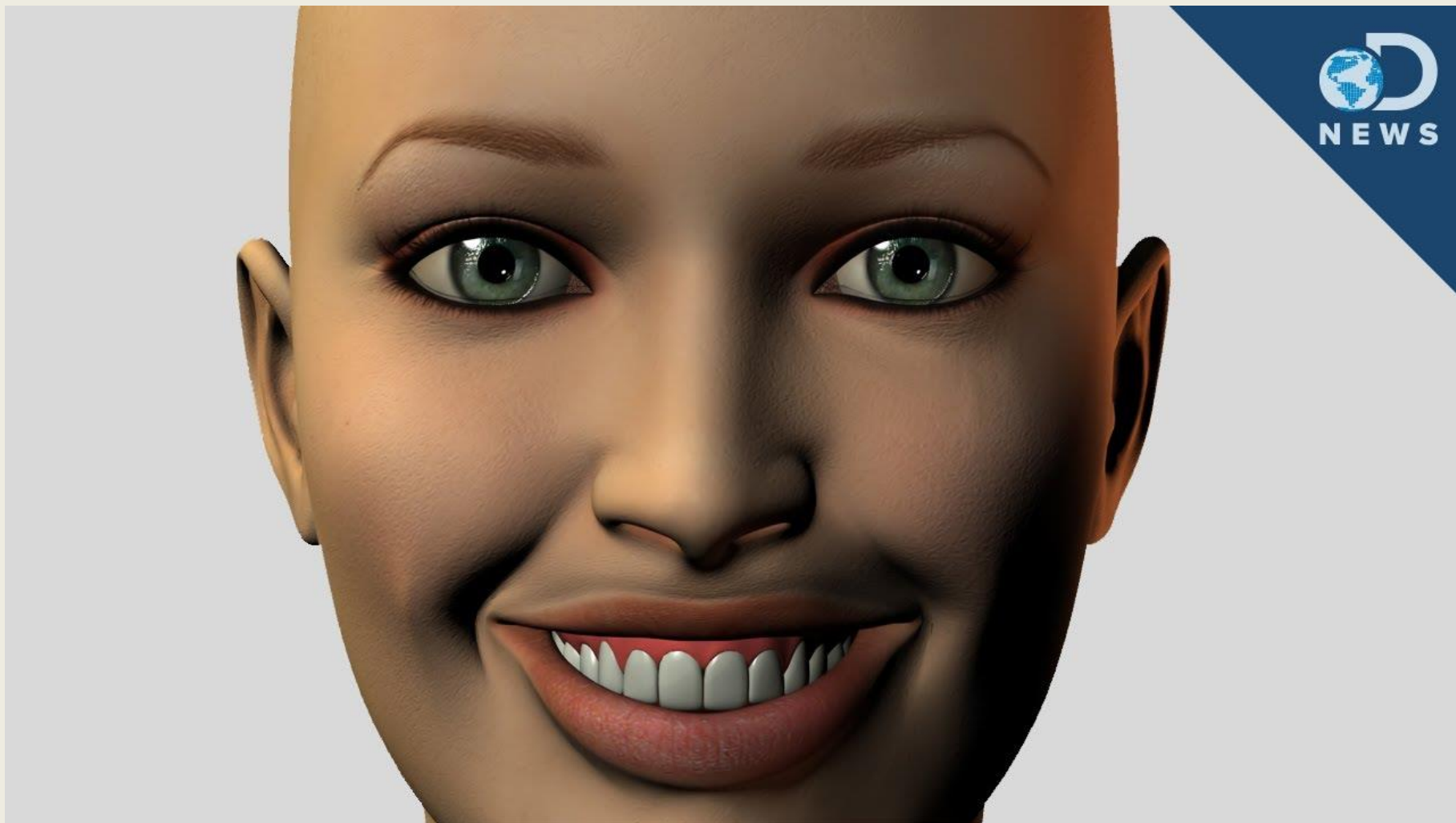
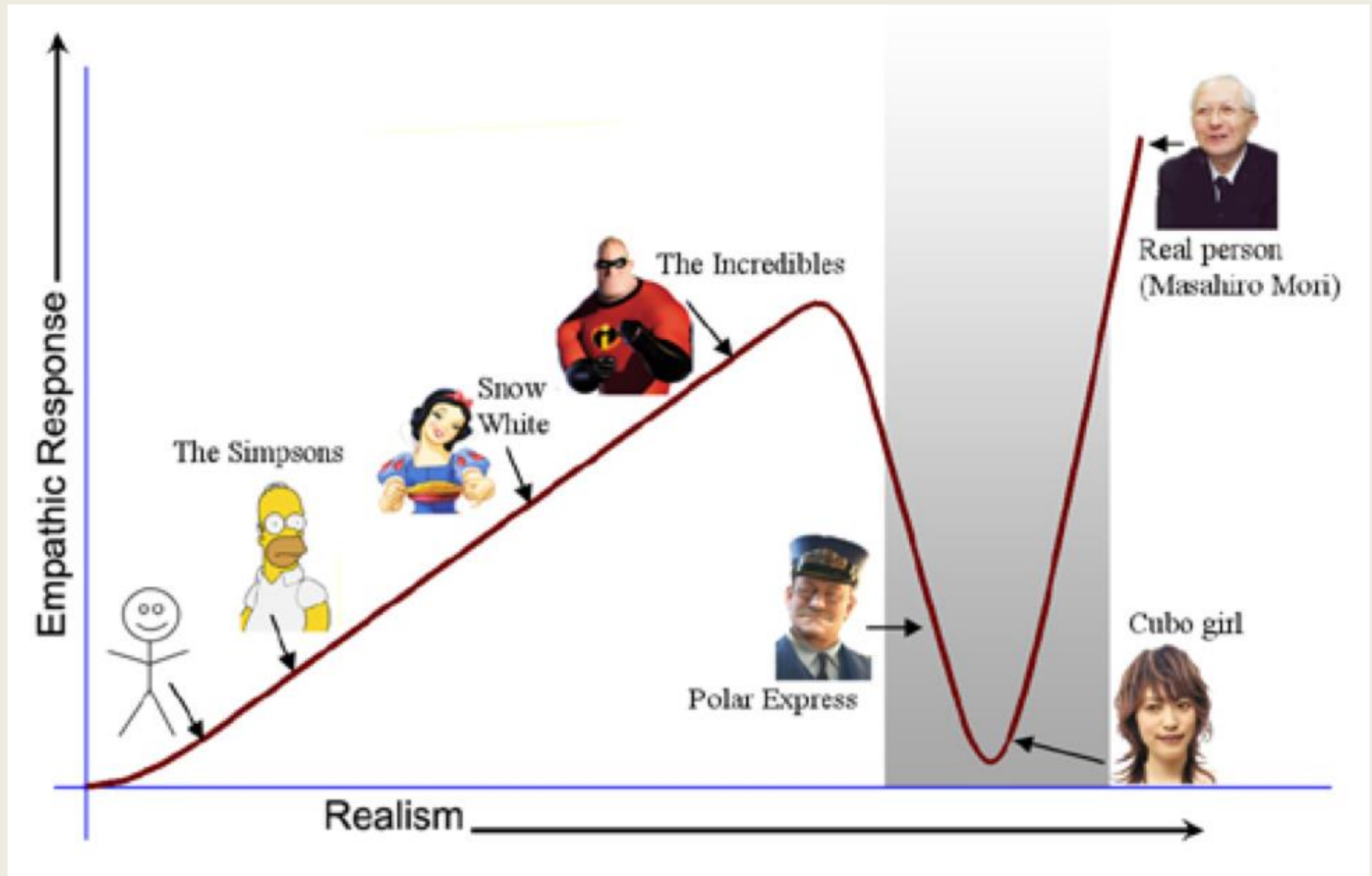# 1. Abraham Lincoln's Head on John Calhoun's Body, circa 1860

50 AMAZING PHOTO MANIPULATION PHOTOSHOP TUTORIALS

https://i.ytimg.com/vi/8ar7WO1T5Cs/maxresdefault.jpg

1970: "Uncanny Valley" – Masahiro Mori

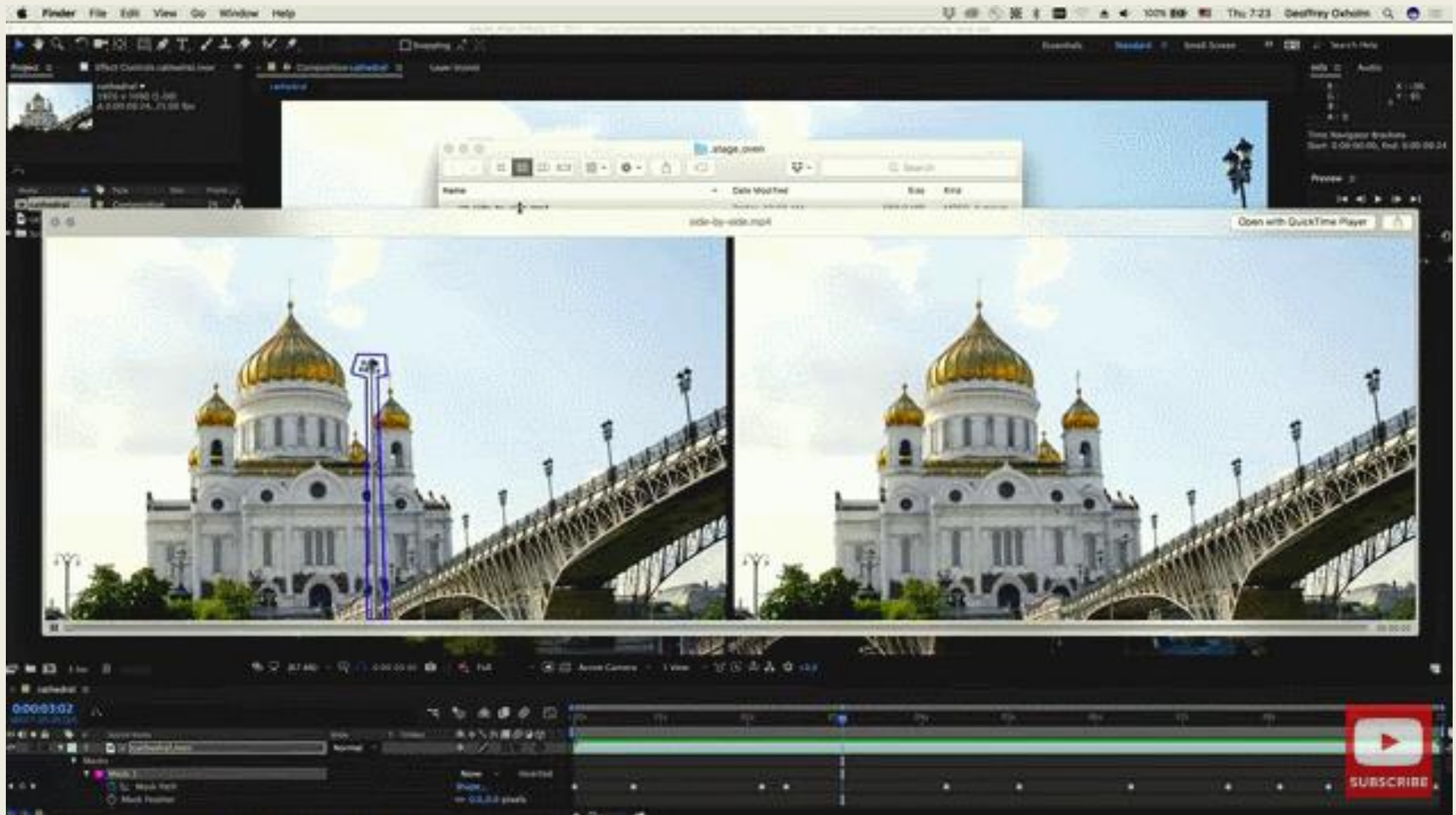# "Digital Emily"

Deep Neural Net CycleGAN

Faces from Deep GAN Networks

The AI creating fake PORN: 'Deepfakes' algorithm puts Gal Gadot's face onto the body of an adult movie star

Adobe Cloak

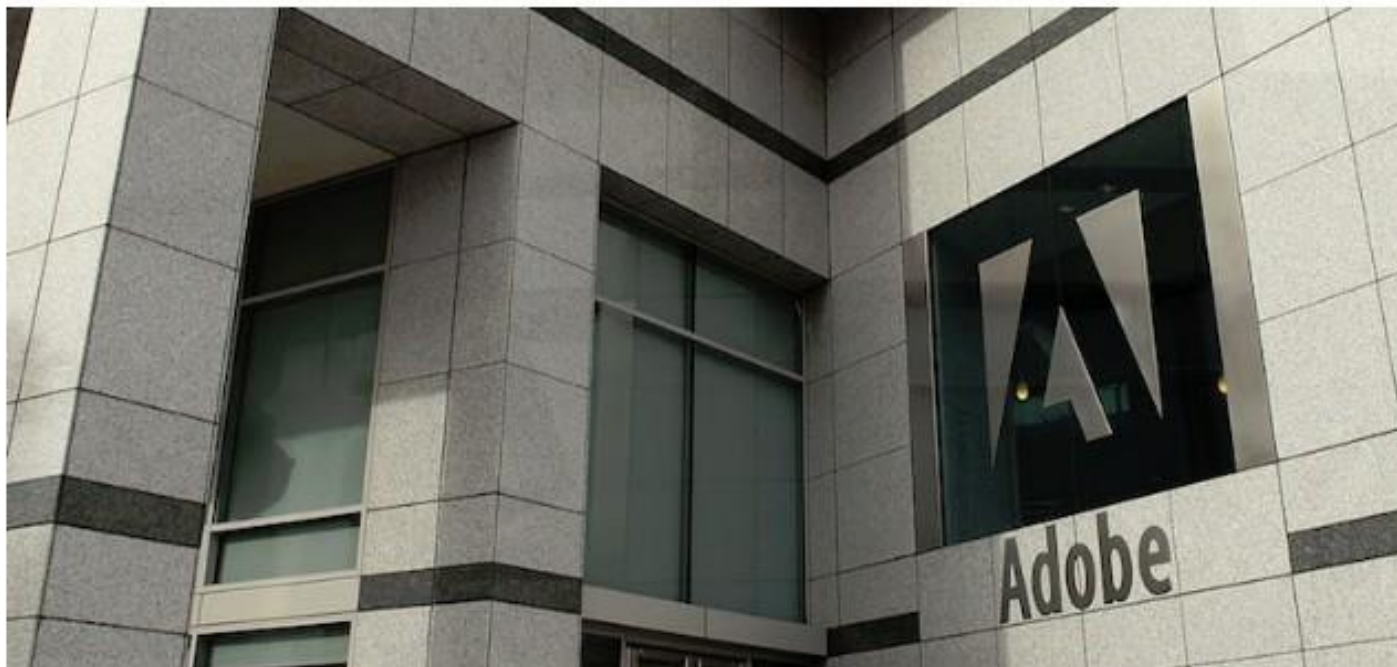
http://digg.com/2017/adobe-project-cloak

VoCo: Realistic Altered Speech

Adobe's New Audio Software Eerily Mimics Human Speech

Project VoCo can produce the sound of someone saying something they didn't actually say with unsettling realism

Artificial Intelligence | fake news | deep learning | artificial intelligence

Lyrebird is a voice mimic for the fake news era

Posted Apr 25, 2017 by *Natasha Lomas* (*@riptari*)

Next Story

Crunchbase

Lyrebird −

FOUNDED
2017

OVERVIEW
Lyrebird will offer a new generation of speech synthesis technologies for developers. It is the result of several months of research conducted at the MILA lab at University of Montréal.

CATEGORIES
Audio, Developer APIs, Artificial Intelligence

FOUNDERS
Théo Szymkowiak, Jose Sotelo, Alexandre De Brébisson, Kundan Kumar

WEBSITE
https://lyrebird.ai/

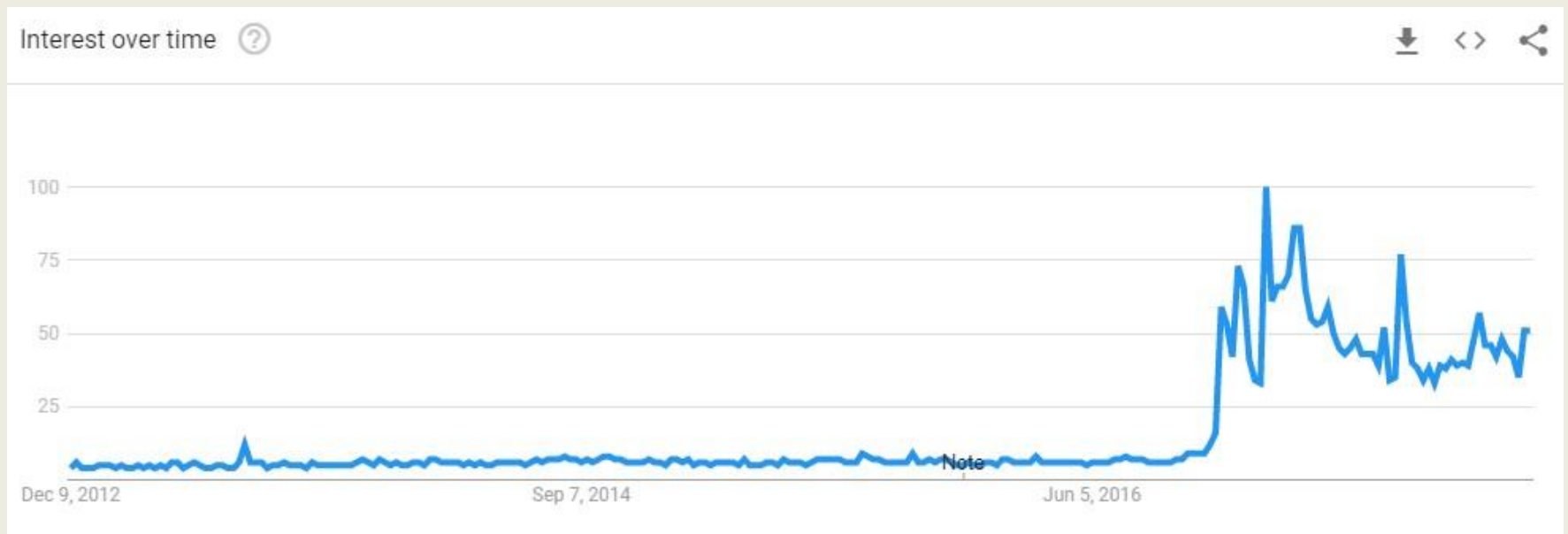Full profile for Lyrebird

Face2Face

Real-time Facial Reenactment

DONALD TRUMP ON BEST & WORST PRESIDENTS

Live capture using a commodity webcam

https://www.youtube.com/watch?v=ohmajJTcpNk&ab_channel=MatthiasNiessner

Interest in "Fake News"

December 2016 Fake News

Image Credit: WIRED

Welcome To Veles, Macedonia, Fake News Factory To The World

f y ⊙ ✉ +

https://www.magzter.com/article/Science/WIRED/Welcome-To-Veles-Macedonia-FakeNews-Factory-To-The-World

INSIDE THE MACEDONIAN FAKE-NEWS COMPLEX

by Samanth Subramanian | photographs by Guy Martin   2.15.17

https://www.wired.com/2017/02/veles-macedonia-fake-news/

EXCLUSIVE NEWS DEC 9 2016, 7:17 AM ET

Fake News: How a Partying Macedonian Teen Earns Thousands Publishing Lies

by ALEXANDER SMITH and VLADIMIR BANIC

http://www.nbcnews.com/news/world/fake-news-how-partying-macedonian-teen-earns-thousands-publishing-lies-n692451

$450 Million "Salvator Mundi" Leonardo

Christie's Is Selling This Painting for $100 Million. They Say It's by Leonardo. I Have Doubts. Big Doubts.

By Jerry Saltz

Salvator Mundi. Photo: Tolga Akmen/AFP/Getty Images

Update: The painting sold for more than $400 million.

Artificial Intelligence Can Now Spot Art Forgeries by Comparing Brush Strokes

Is AI the future of art authentication?
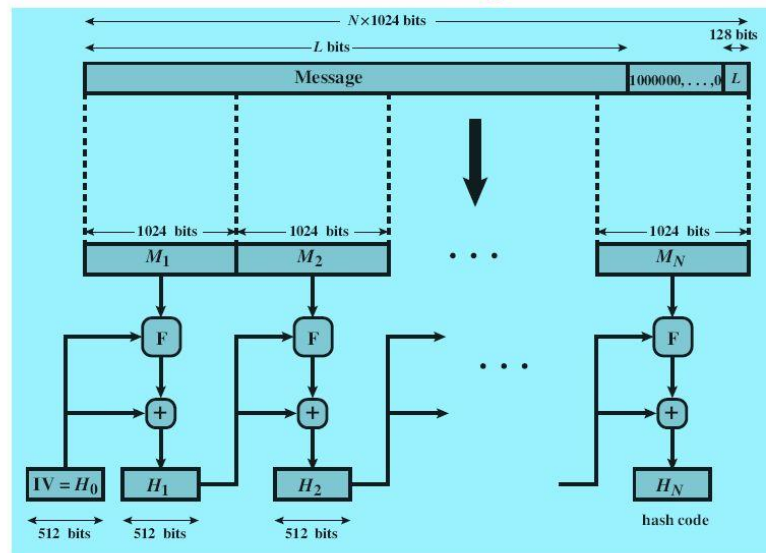
Sarah Cascone, November 21, 2017
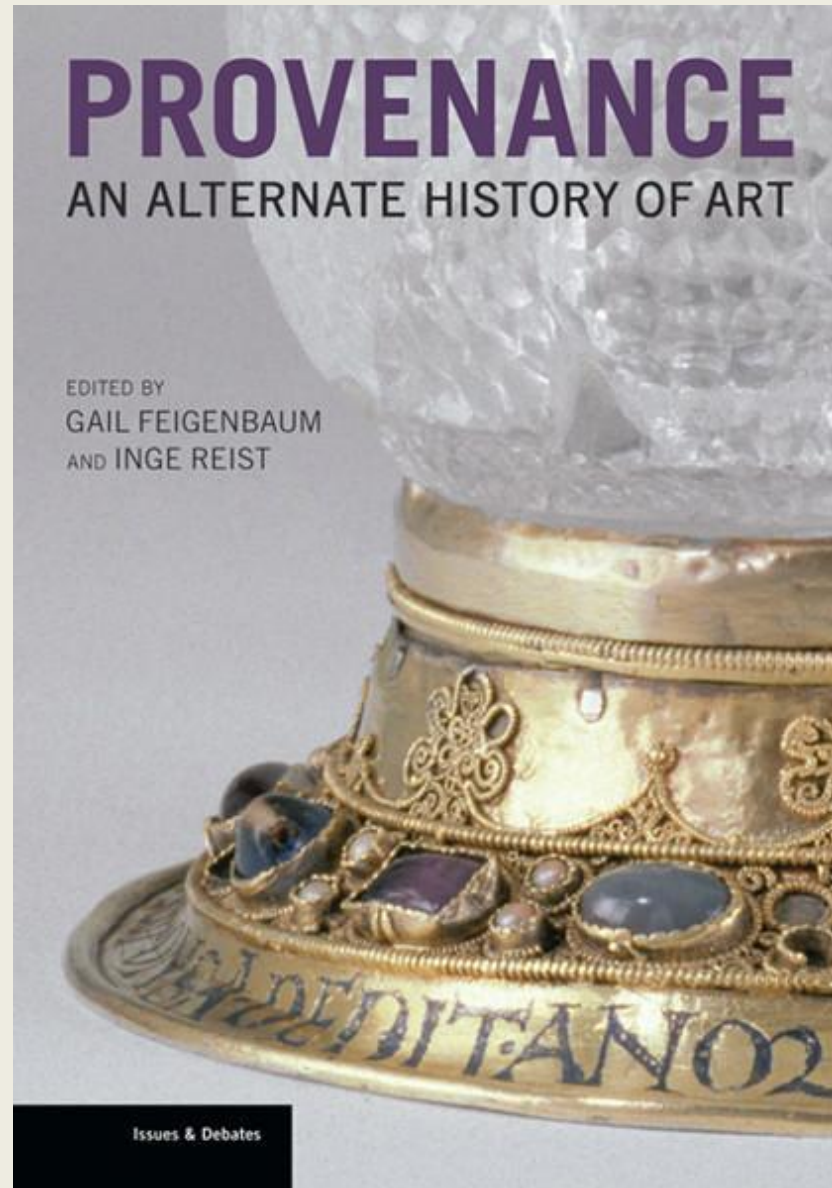
Deceivers vs. Fraud Detectors
Who wins?

Cryptographic Hash Functions
SHA-512 Logic

Cryptographically secure pseudorandom number generators:
Much cheaper to *generate* random looking bits
Than to *detect* that they aren't random

Art World Relies on "Provenance"

PROVENANCE
AN ALTERNATE HISTORY OF ART

EDITED BY
GAIL FEIGENBAUM
AND INGE REIST

Issues & Debates

Blockchains

Bitcoin
Satoshi Nakamoto: 2008

Ethereum: July 2015

Blockchain Proof of Time

A

time

blockchain

Top block hash

B

blockchain

Hash of image and top block hash
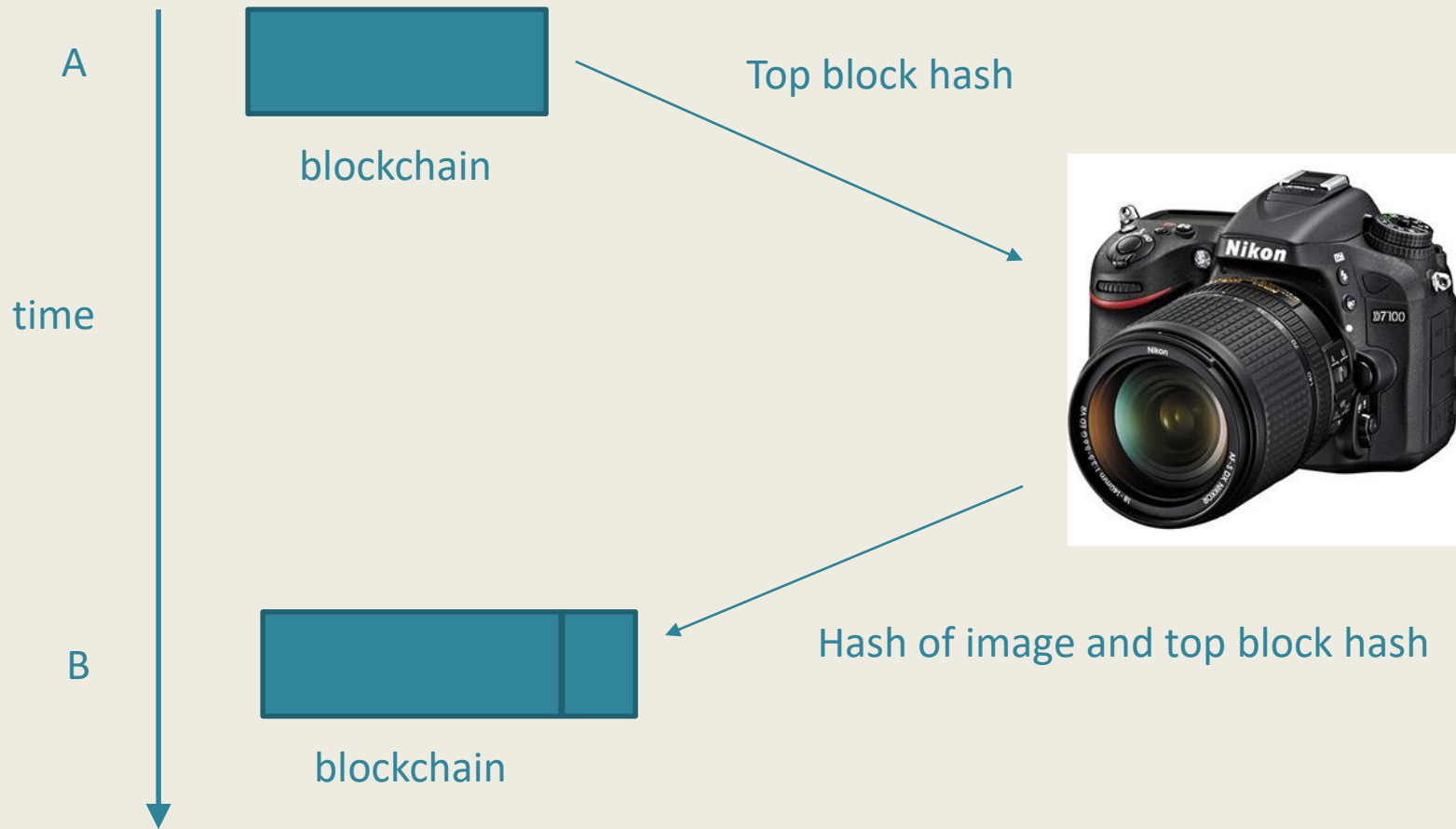
GPS Cameras

The 7 Best GPS Cameras to Buy in 2017

Find the best cameras that work with geotagging

f Share   P Pin   ✉ Email

by **Kyle Schurman**
Updated March 31, 2017

02
of 07

Best Value: Nikon D5600

https://www.lifewire.com/best-gps-cameras-493669

Blockchain Proof of Location

Using Block Chain for Peer-to-Peer Proof-of-Location

Giacomo Brambilla, Michele Amoretti, Francesco Zanichelli

(Submitted on 1 Jul 2016)

https://arxiv.org/abs/1607.00174

Can we build a 'proof of location' system for the Ethereum blockchain?

6/6/2016 by Daniel Witte

https://dao.consider.it/can-we-build-a-proof-of-location-system-for-the-ethereum-blockchain?results=true

Bob McElrath (Follow)

Reverse-engineering the universe and remaking money. Ph.D. Theoretical Physics; Bitcoin hacker; SolidX CTO

May 17, 2016 · 6 min read

Blockchain Proof of Location

https://blog.sldx.com/blockchain-proof-of-location-7af5eb8073c1

Music Meets Poetry Meets Copyright

Len Sousa's Poetry/Music Mashups: Lowell's "For the Union Dead" Meets Philip Glass

One of the great political poems of the 20th century, Robert Lowell's "For the Union Dead" (1964) is an archeological dig through the multiple pasts of personal and American history, a re-dedication of the famous St. Gauden's Memorial in Boston to Robert Gould Shaw and the all-black regiment (the Massachusetts 54th) who fought in the Civil War. What attracted me to Lowell's poem was--in addition to its kaleidoscopic allusiveness--its seething anger, just below the surface of its erudition. The poem comes to its anger slowly, but it's just as I felt before and during the Gulf War of 1991, when I was first encountered this poem. The poem ends with an image of the countless cars choking the roads: "a savage servility/slides by on grease." To echo Walter Benjamin: every artefact of civilization is also an artefact of barbarism.

- Len Sousa has smartly mashed "For the Union Dead" with Philip Glass. Thanks to Chris Kempf for pointing this site out to me. (My little girls danced to Frank O'Hara Meets the Beatles the whole time that I posted this note.)
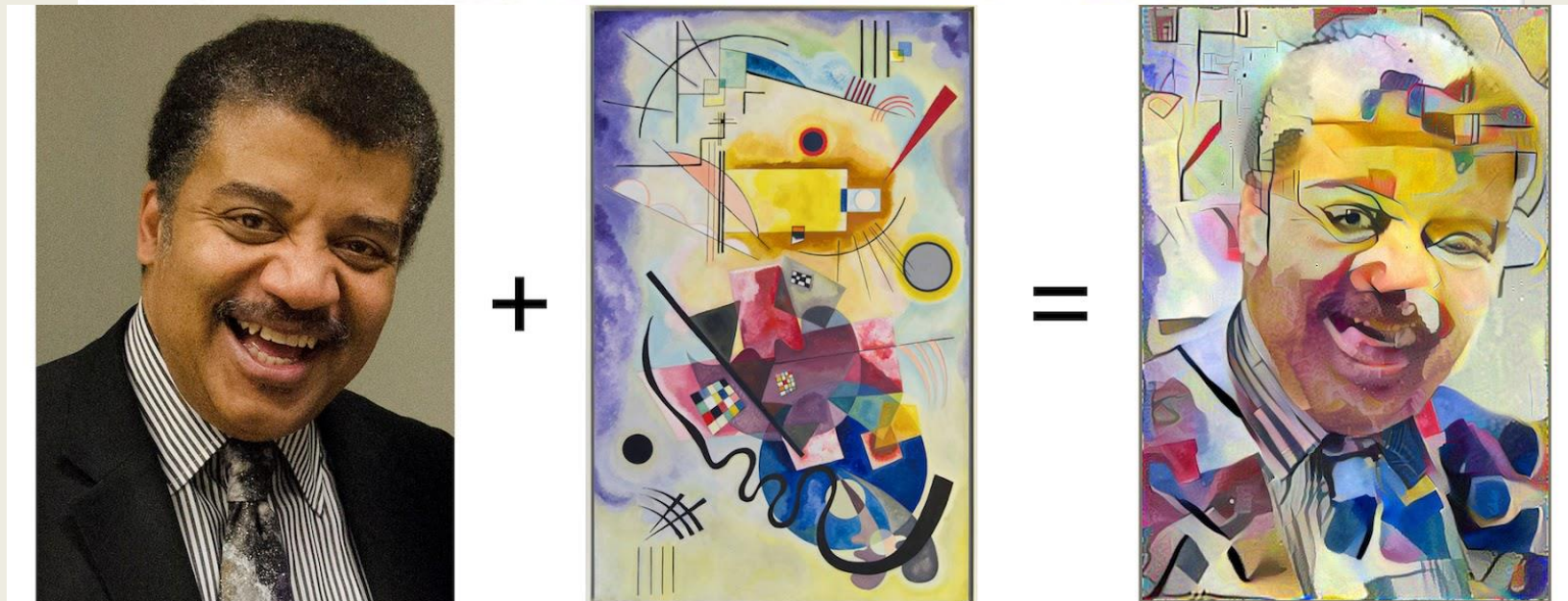
Mashups and Sampling

MUSIC'S SECRET WEAPON: A History In Sampling

2016: Deep Learning Style Transfer

https://no2147483647.wordpress.com/2015/12/21/deep-learning-for-hackers-with-mxnet-2/

https://research.googleblog.com/2016/02/exploring-intersection-of-art-and.html

Twitch Player "Ninja" makes $500,000/month

How *Fortnite* Streamer Ninja Suddenly Took Over Twitch

Nathan Grayson
3/09/18 3:40pm · Filed to: NINJA

87.1K   118   3

Image: Ninja (twitch.tv/ninja)

AI will fundamentally change how we manage content

Ron Miller @ron_miller / Aug 26, 2017

- Reuse
- Sampling
- Mashups
- Style-transfer
- In-game items
- In-game "moves"

- AI + Provenance
- Art Marketplaces