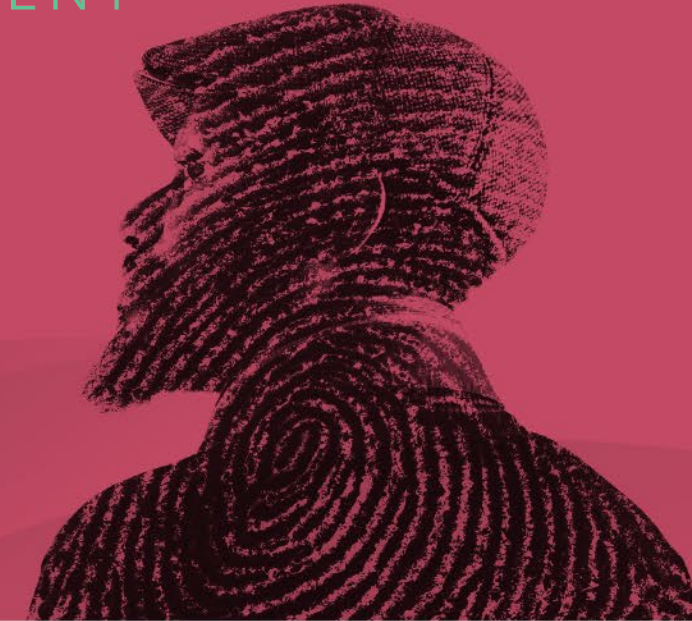


SESSION ID: SBX1-W5

## Losing Our Reality: How Deepfakes Threaten Businesses and Global Markets



**Alyssa Miller**

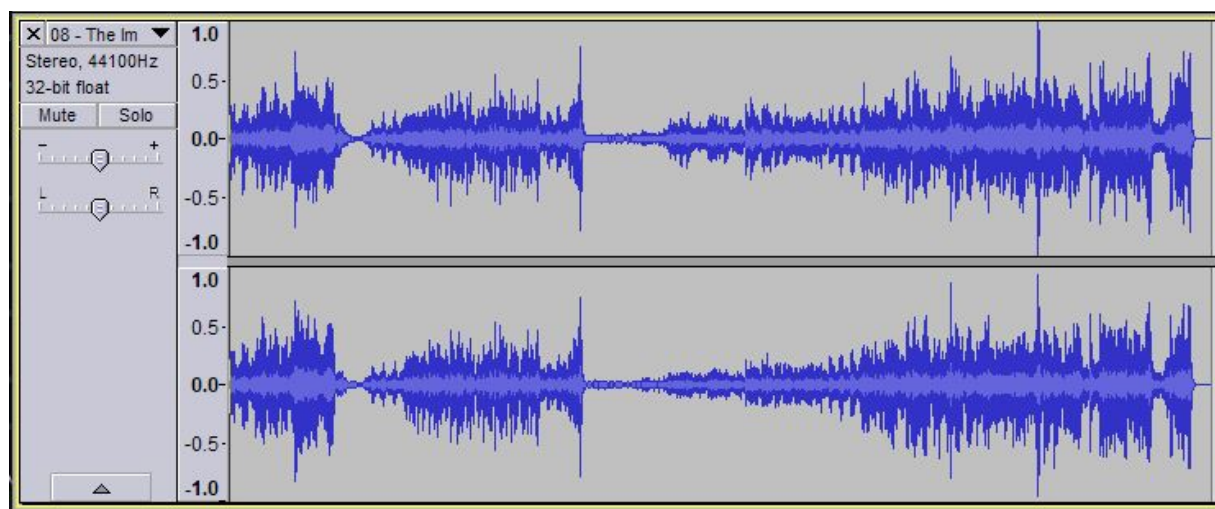
Application Security Advocate

Snyk Ltd.

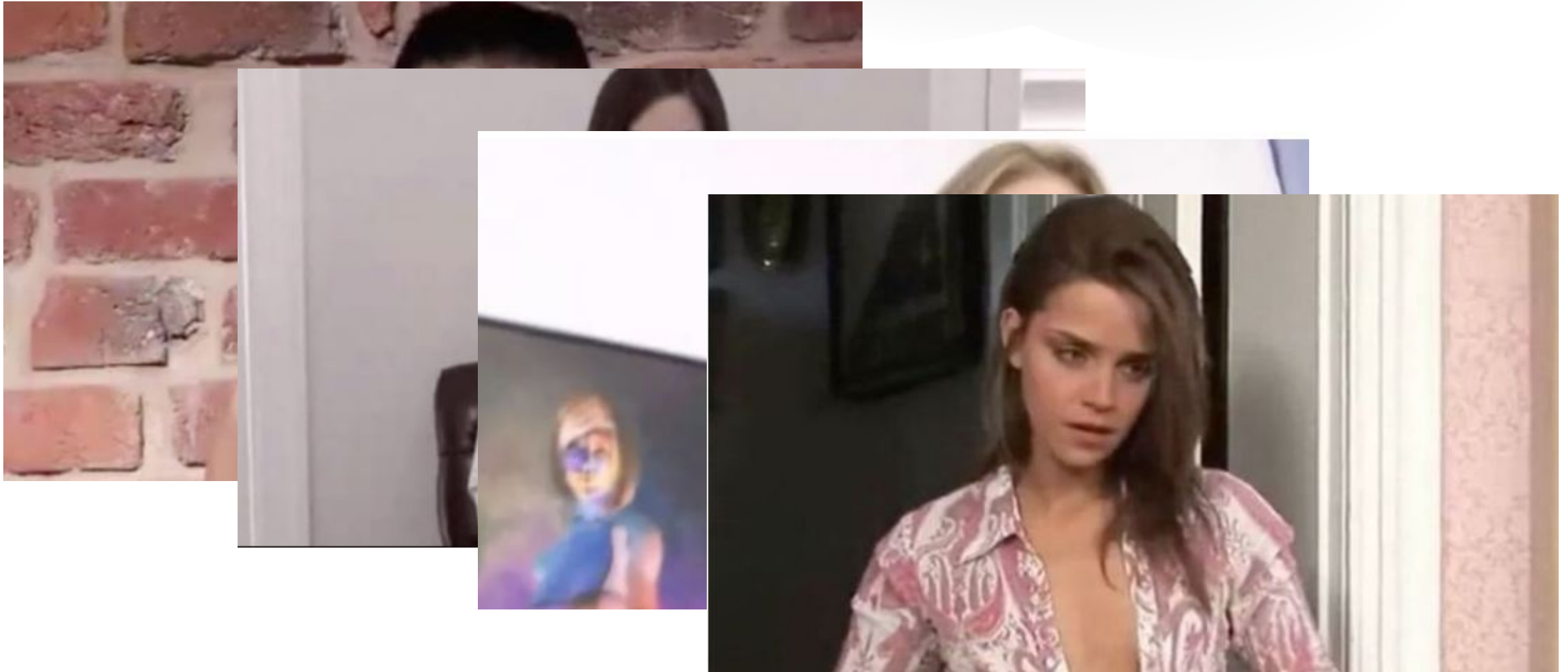
@AlyssaM\_Infosec



# What Are Deepfakes?



# A quick history on the rise of deepfakes





# Turning Political

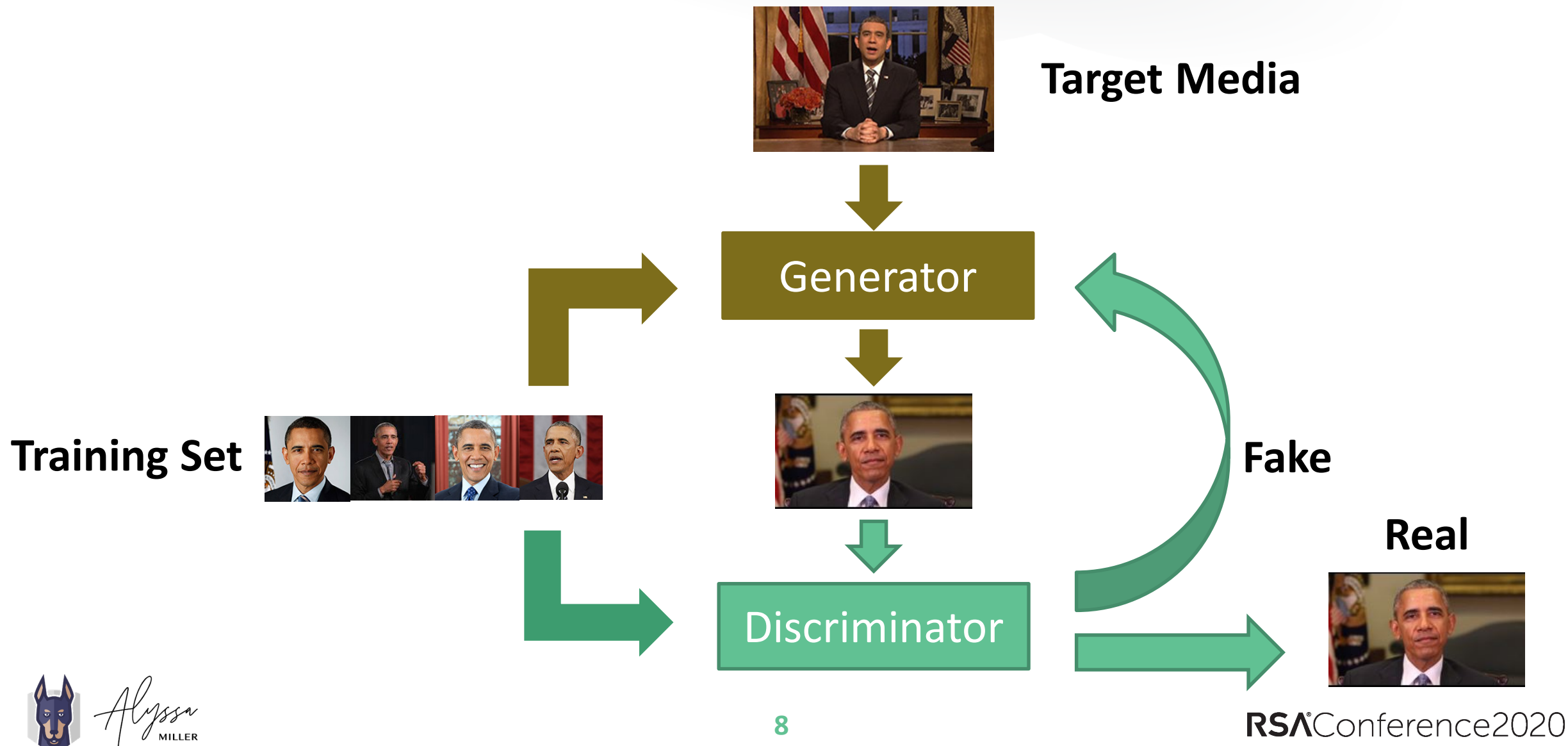


# Business leaders



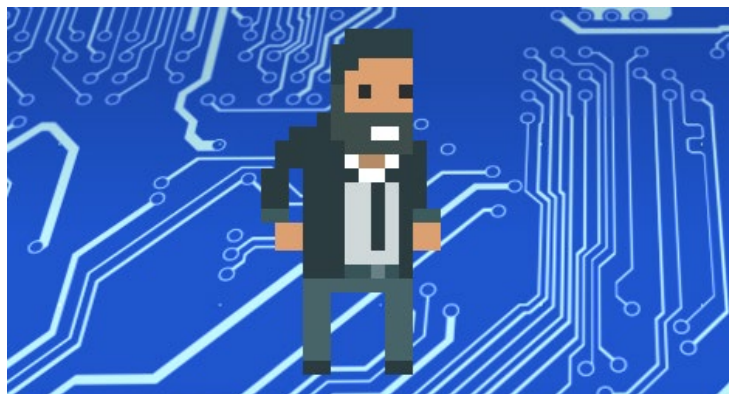
**PLACEHOLDER: Deepfake Video Here**

# Understanding GANs

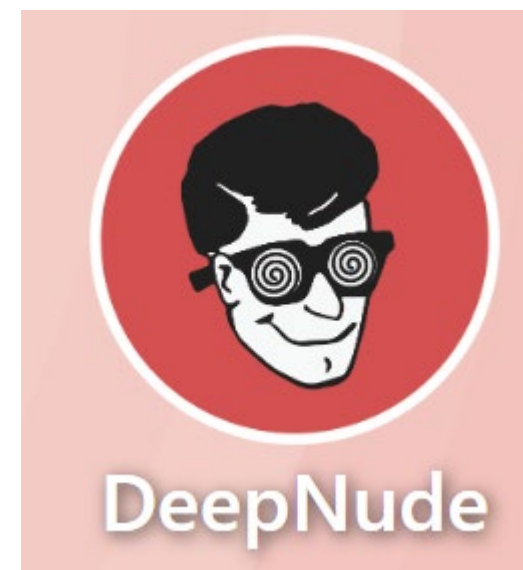
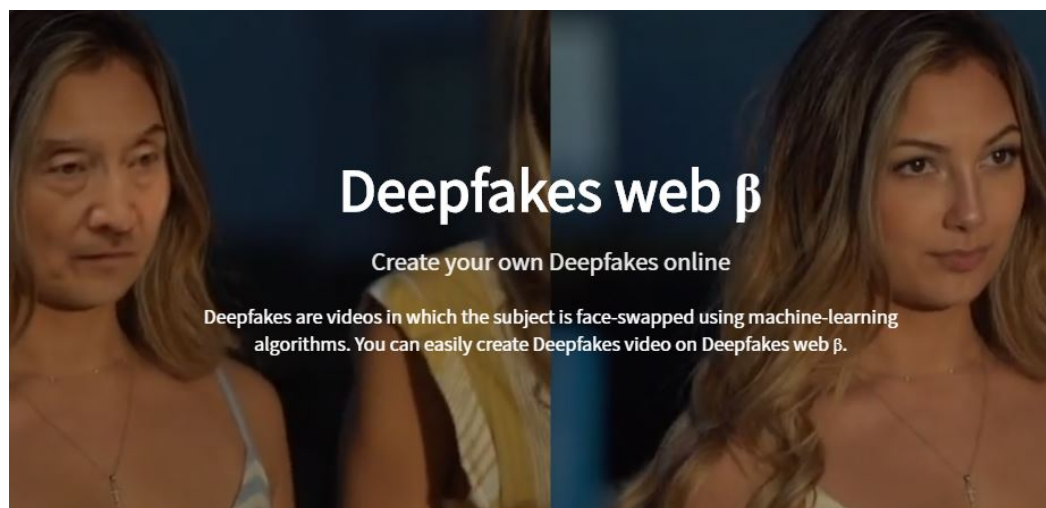




# Creating Deepfakes



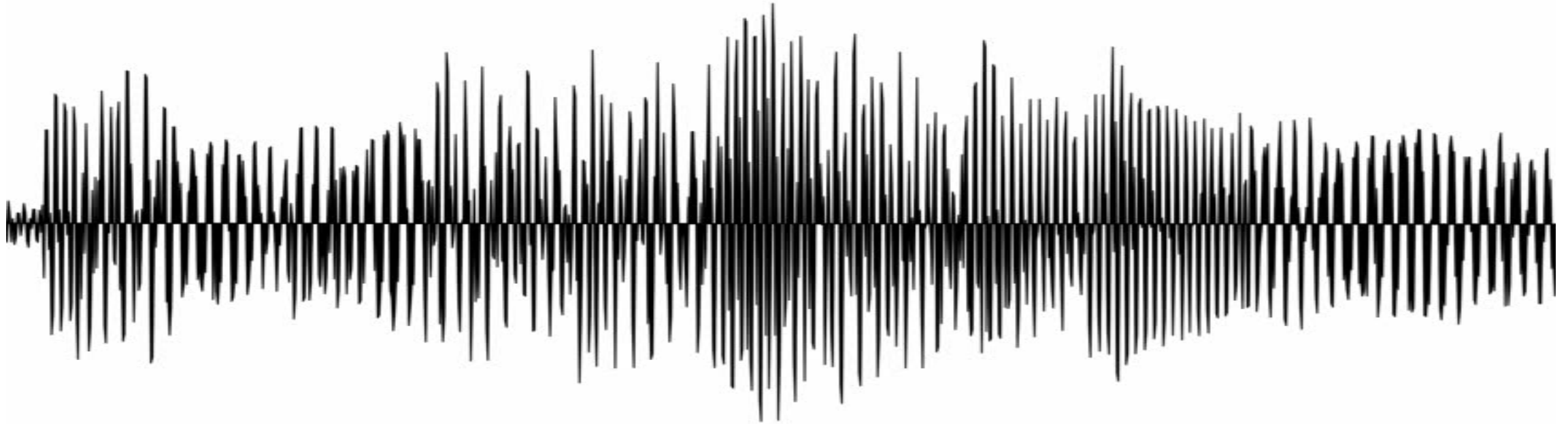
FAKEAPP



## Understanding the Threats

How does this impact businesses and markets?

# Threats to business



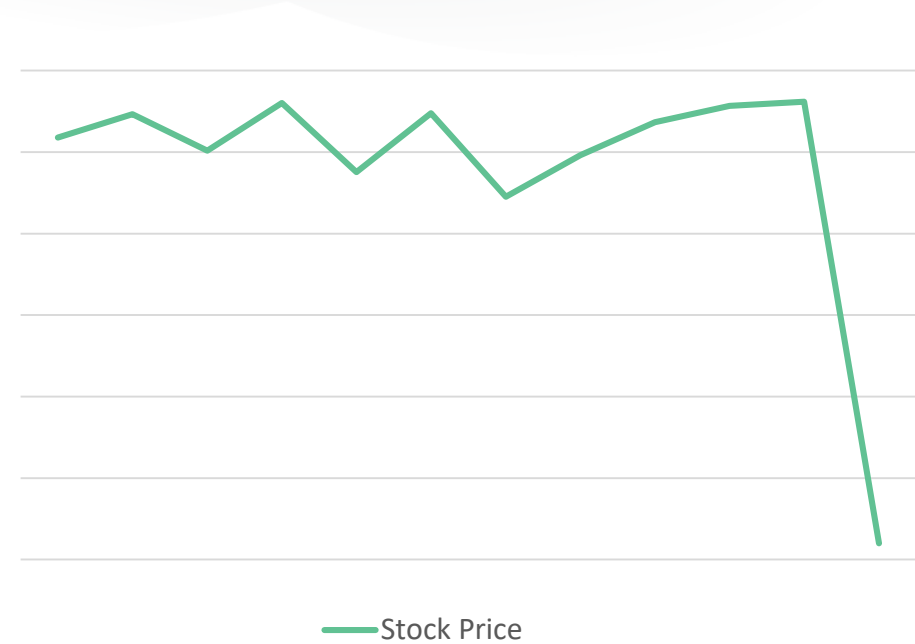
## SOCIAL ENGINEERING

# Threats to business



EXTORTION

# Threats to business



## “OUTSIDER” TRADING



# Threats to business

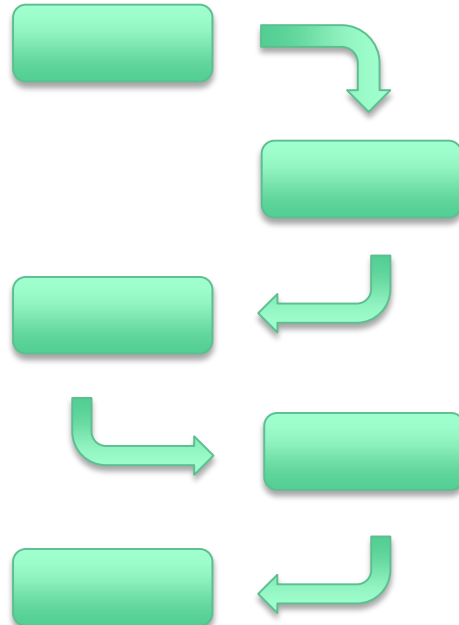
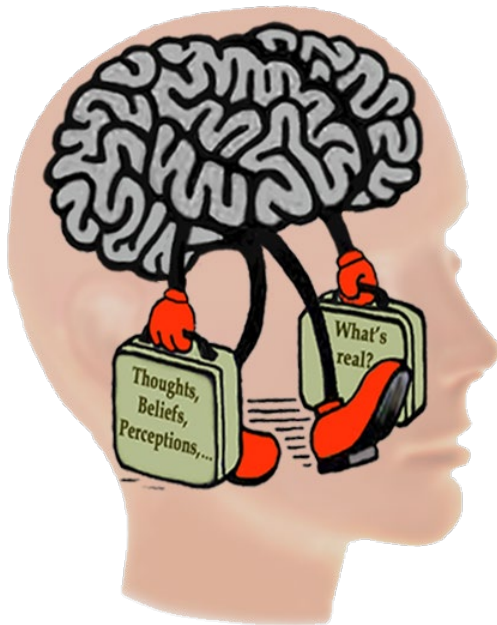


## FINANCIAL/MARKET MANIPULATION

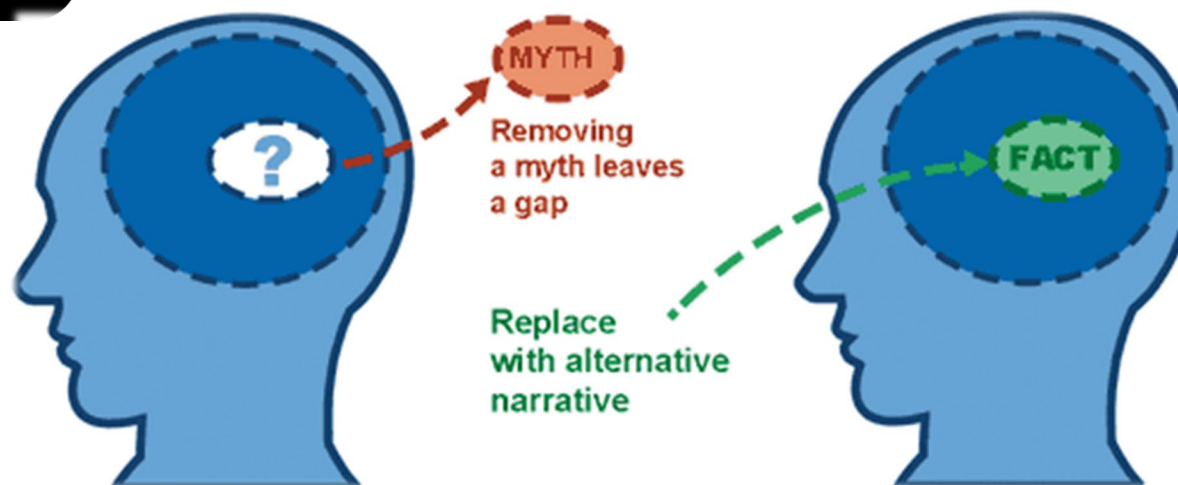
# The World of Disinformation

What can be done to combat this threat?

# The Disinformation Problem



# Combating Disinformation



## Detection, Certification, Prevention

Countermeasures for Deepfake Disinformation



# Detecting Deepfakes



Image: [Phys.org](#)

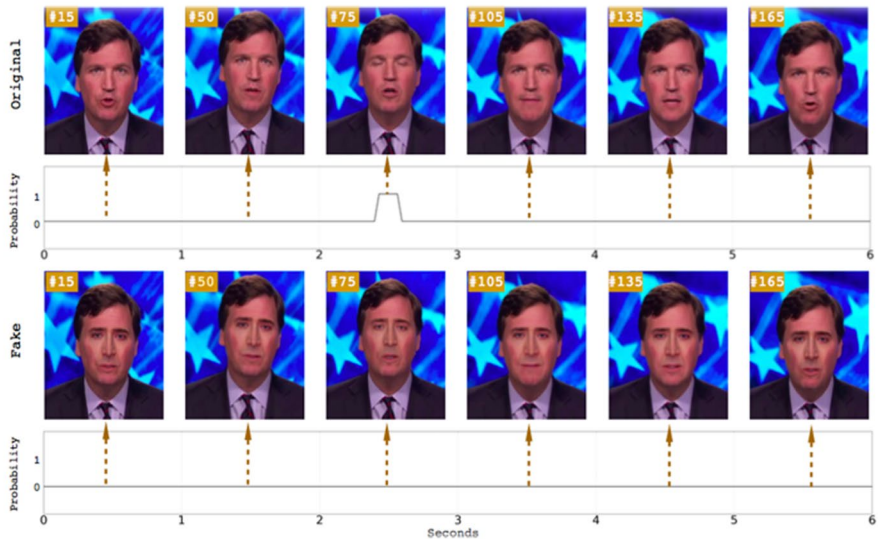


Image: [University at Albany, SUNY](#)



Image: [Berkeley & USC](#)

# Certifying Original Videos



Photo by [Hunter Moranville](#) on [Unsplash](#)

# Can we prevent deepfakes from being created?

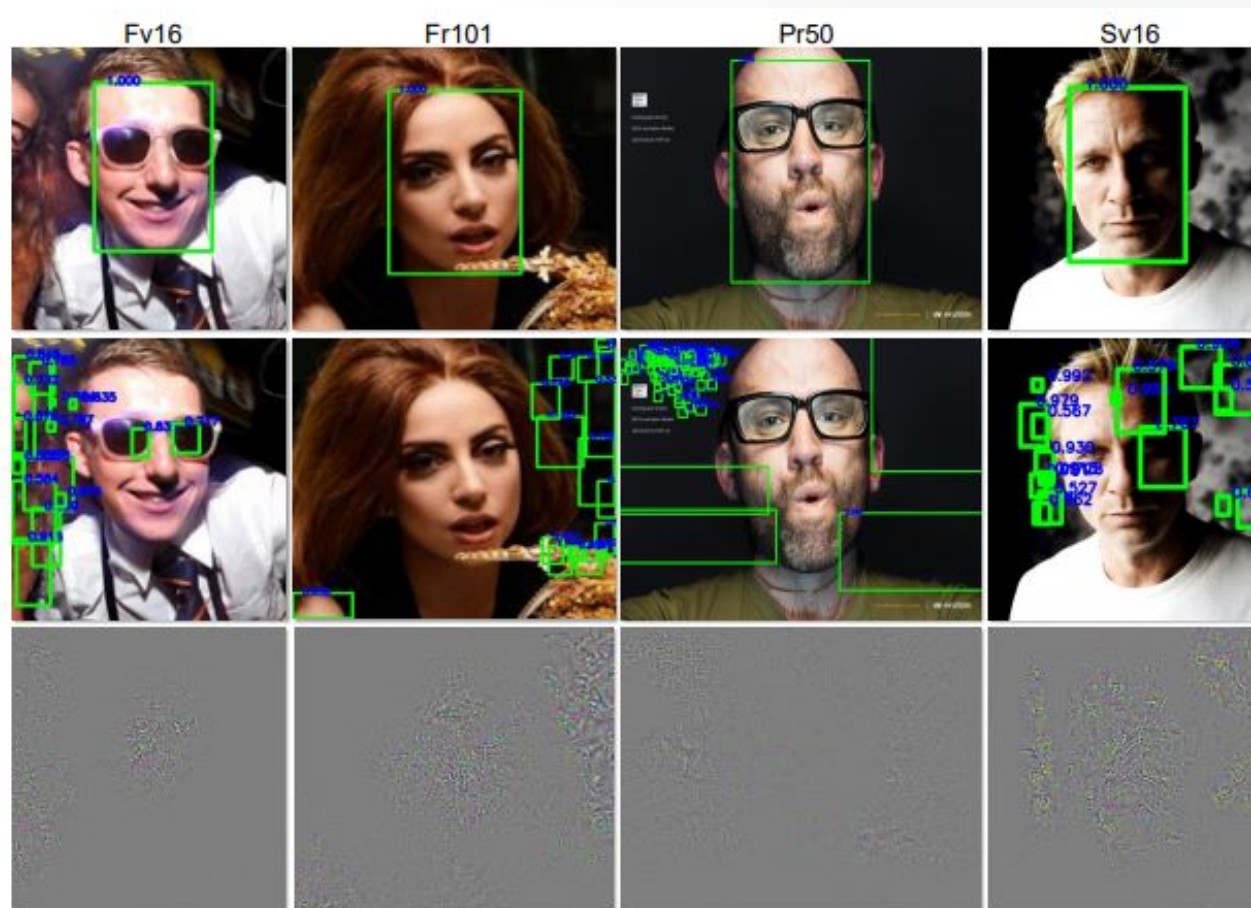


Image: [Cornell University](#)

## **Taking Action**

**Preparing the enterprise to combat the DeepFake Threat**

# So what can business do?

- Immediately
  - Minimize channels for company communications
  - Drive consistent information distribution
- Prepare for the Future
  - Develop a disinformation response plan (treat these as incidents)
  - Organize a centralized monitoring and reporting function
- For the long term
  - Encourage responsible legislation and private sector fact verification
  - Monitor development of detection and prevention countermeasures



# Continue the Conversation



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**https://alyssasec.com**

# References...

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[https://www.researchgate.net/publication/277816966\\_Misinformation\\_and\\_its\\_Correction](https://www.researchgate.net/publication/277816966_Misinformation_and_its_Correction)

Detecting Deepfakes by Looking Closely...

<https://phys.org/news/2019-06-deepfakes-reveals.html>

In Ictu Oculi: Exposing AI Generated Fake Face Videos by Detecting Eye Blinking

<https://arxiv.org/pdf/1806.02877.pdf>

Exposing DeepFake Videos By Detecting Face Warping Artifacts

<https://arxiv.org/pdf/1811.00656.pdf>

Protecting World Leaders Against Deep Fakes

[http://openaccess.thecvf.com/content\\_CVPRW\\_2019/papers/Media%20Forensics/Agarwal\\_Protecting\\_World\\_Leaders\\_Against\\_Deep\\_Fakes\\_CVPRW\\_2019\\_paper.pdf](http://openaccess.thecvf.com/content_CVPRW_2019/papers/Media%20Forensics/Agarwal_Protecting_World_Leaders_Against_Deep_Fakes_CVPRW_2019_paper.pdf)

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<https://arxiv.org/pdf/1906.09288.pdf>