

Nuisance Variables in your deep learning applications

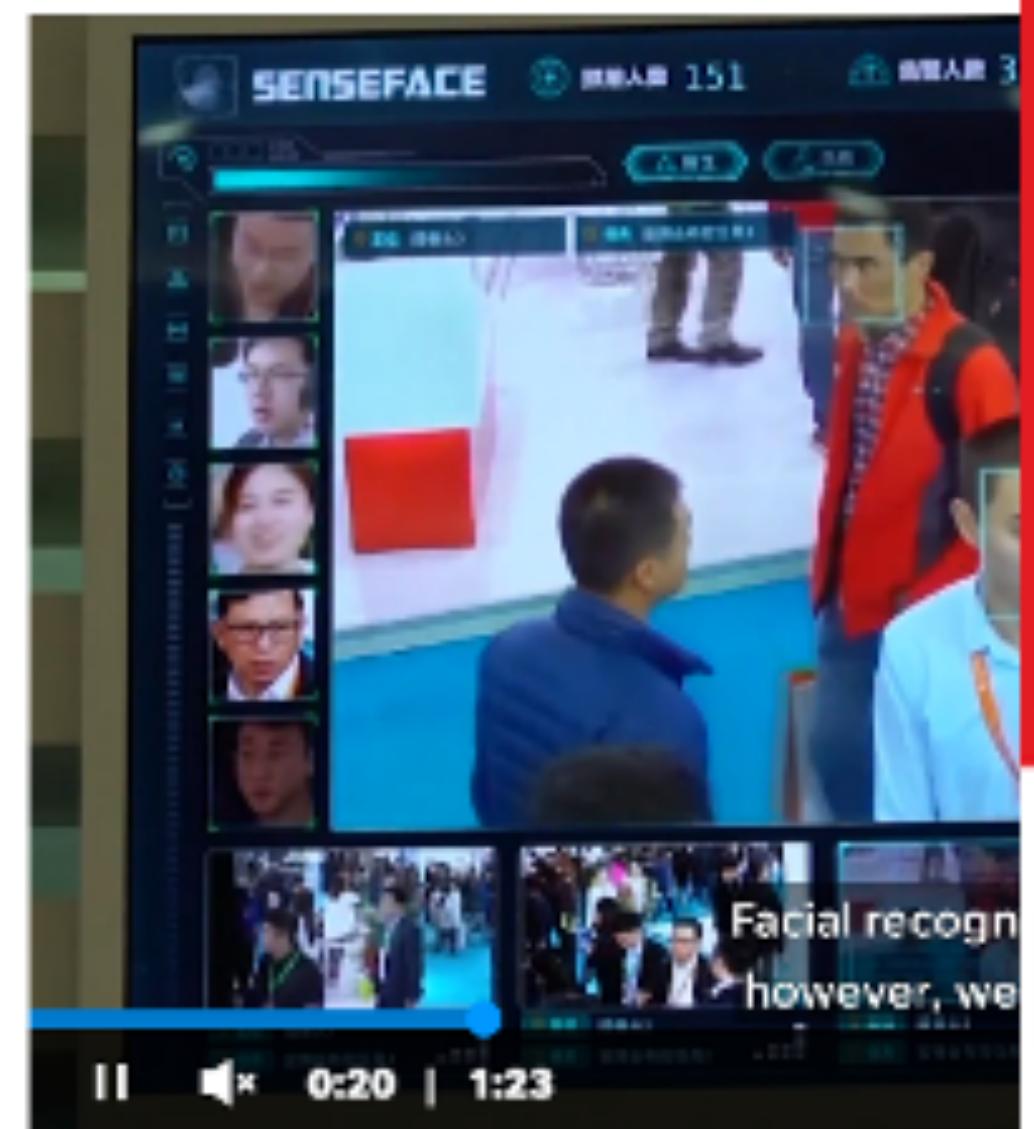


Vishnu Lokhande
UW-Madison
lokhande@cs.wisc.edu

Amazon bans police facial recognition software amid national protest over inequality

Elinor Aspegren USA TODAY

Published 8:26 p.m. ET Jun. 10, 2020 | Updated 9:58 a.m. ET



Practices

People

Careers

Culture

MyHHR News Location

Facial Recognition Technology: The Expanding Regulation of Private Sector Use

Client Advisories



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Related People

You might be in a police lineup right now and not even know it

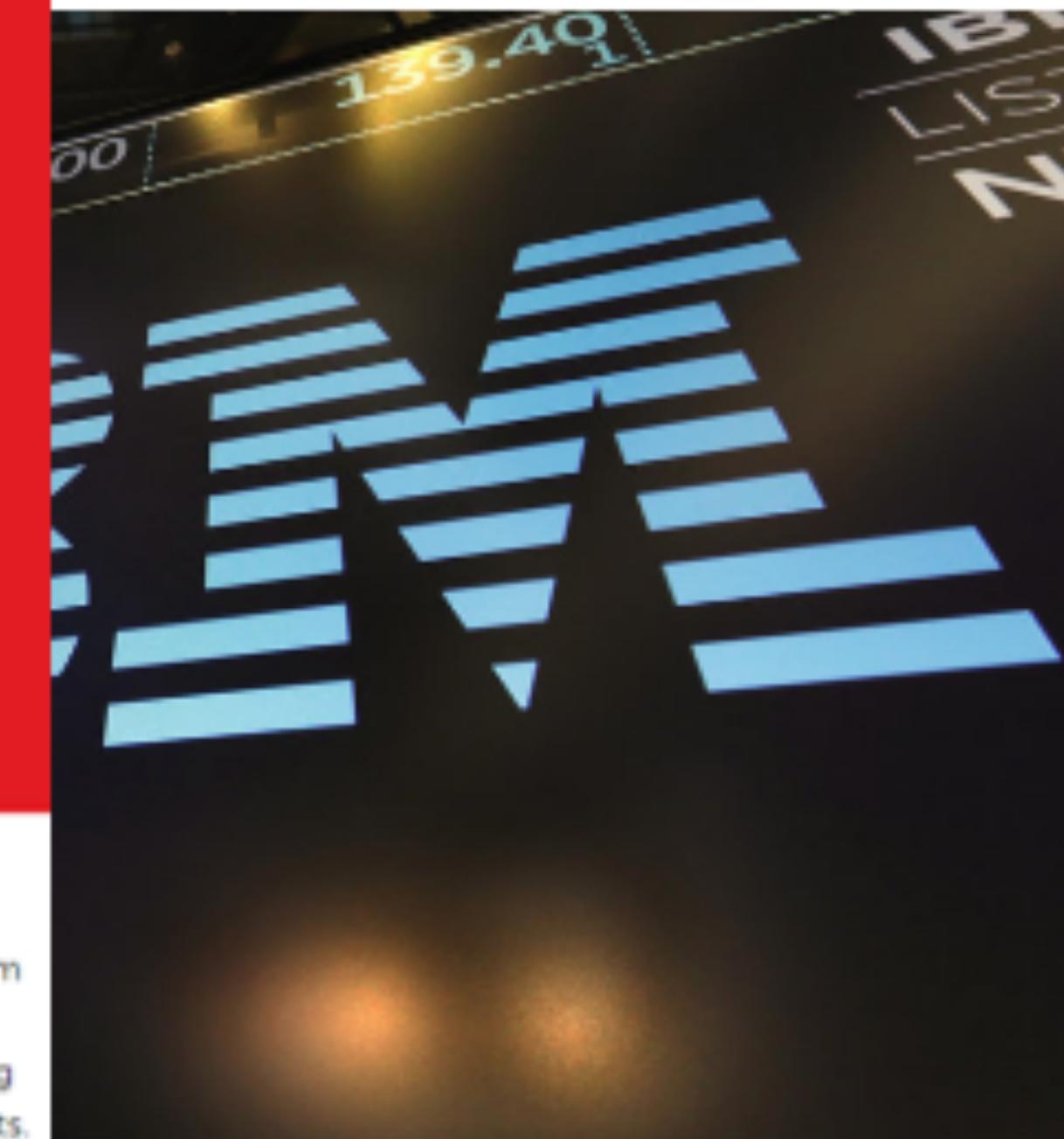
As police embrace new facial recognition technology, many fear false matches could lead to wrongful arrests. Just the

Facial recognition technology ("FRT") is fast becoming a part of everyday life, from the unlocking of cell phones to the mapping of faces on social media sites. Businesses adopting this new technology must be careful to comply with existing laws, as failure to do so can lead to hefty regulatory fines and class action lawsuits.

Earlier this year, Facebook ended its use of facial recognition technology to identify people in photos.

IEM announced this week that it would stop selling its facial recognition technology to customers including police departments. The move prompted calls for other tech firms, like Amazon and Microsoft, to do the same.

Facial Recognition Bans Racially Biased



#(2/3) Robustness in Computer Vision

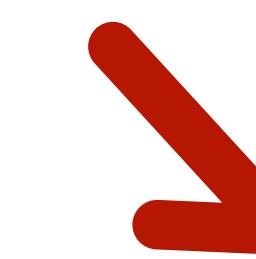
$$\{ (x_i, y_i, g_i) \}_{i=1}^N$$



LandBirds

WaterBirds

$$g_i)$$



LandBirds on Land

WaterBirds on Land

LandBirds in Water

WaterBirds in Water

Minority Group

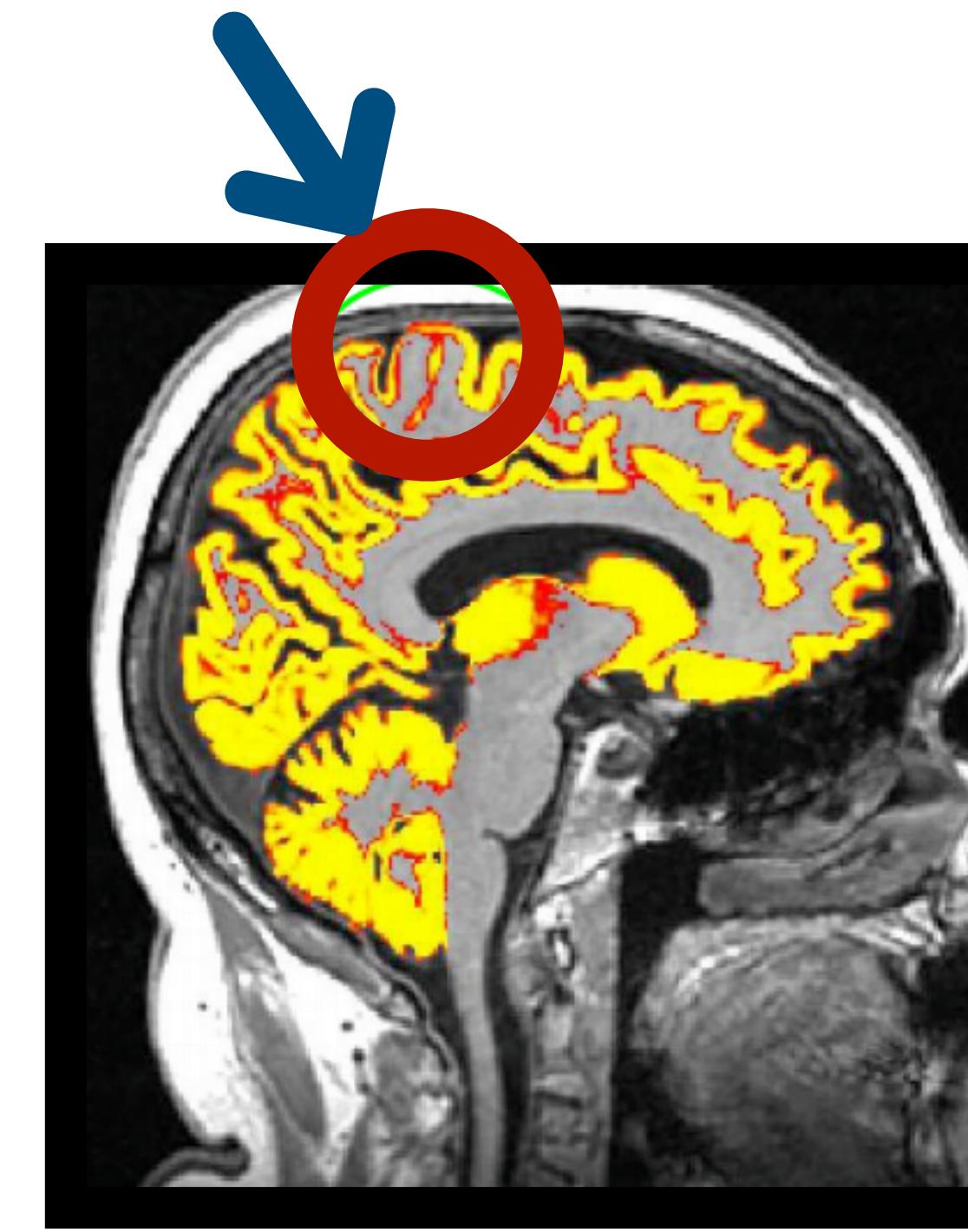


#(1/3) Robustness in biomedical applications

Bias due to data acquisition (scanner artifacts)



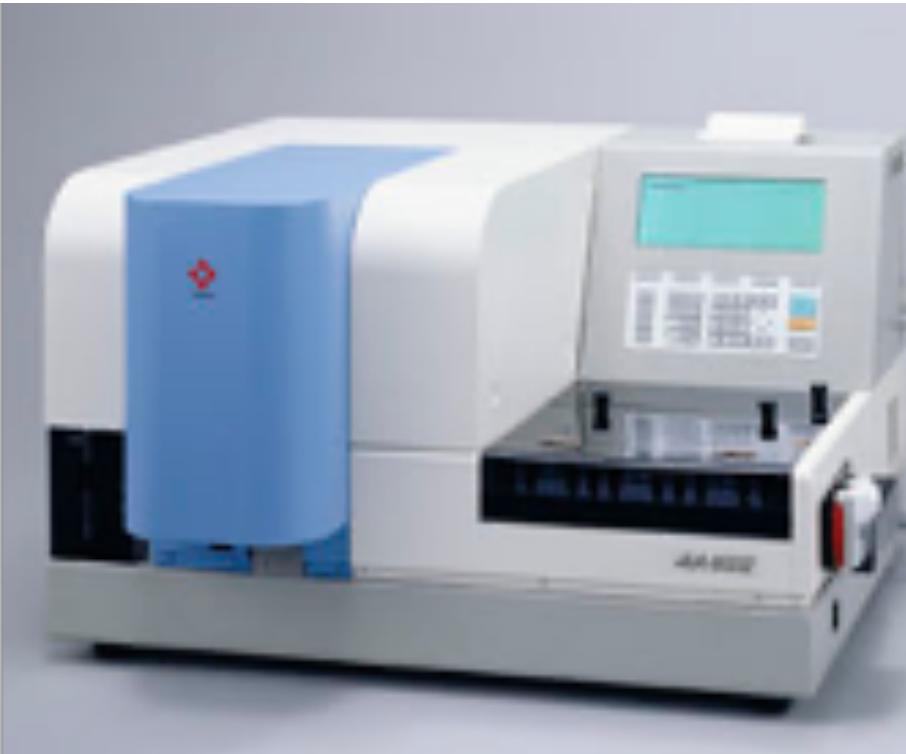
Scanner: SIEMENS



Scanner: GE

#(1/3) Robustness in biomedical applications

Pooling data from multiple sites



Softwares/Machines



Assays



Populations



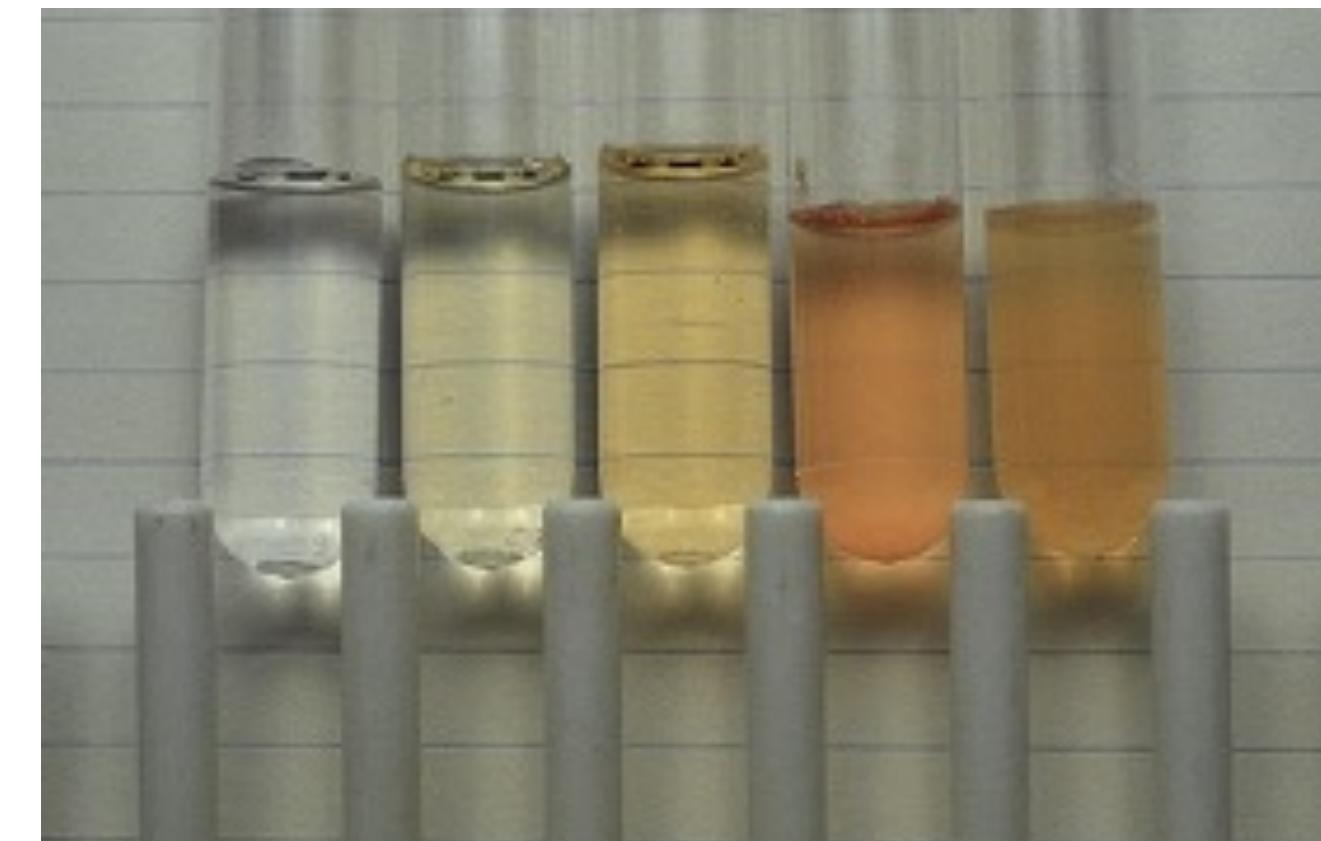
Research labs, hospitals, clinics.



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#(1/3) Robustness in biomedical applications

- **Goals**
 - Resolve differences across institutions
 - Increase sample size by pooling dataset
 - Encourage data sharing under privacy concerns



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#(3/3) Fairness to Sensitive Attributes

ImSitu Dataset: Activity Prediction

Cooking (+)
Driving (-)

Unconstrained



Focus: **PERSON**

Feature leaking Gender

FairALM



Focus: **FOOD**

Feature concealing Gender

Conclusions

