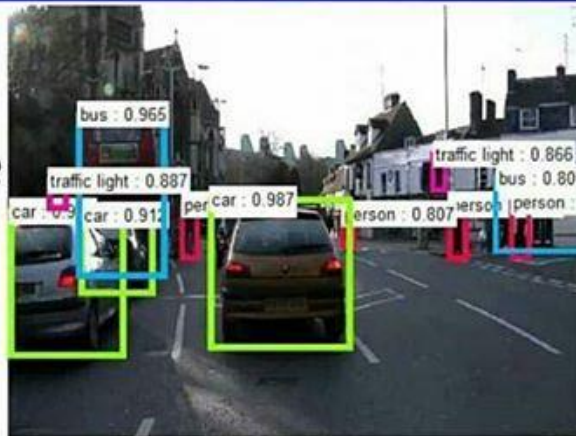
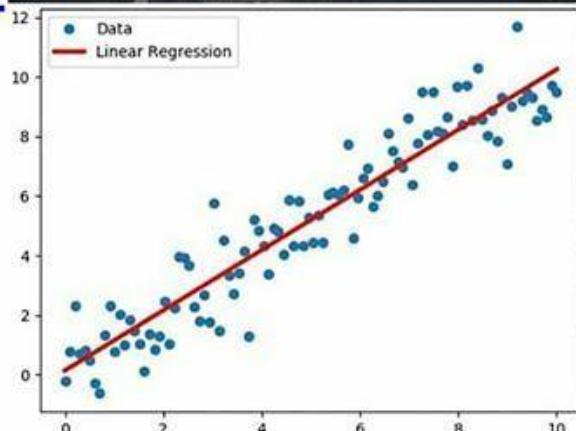


**Let's revisit some memes**

## What they promise you will learn



## What you actually learn



$$y = \beta X + \varepsilon$$

$$y = \beta X + \varepsilon$$

# Statistics

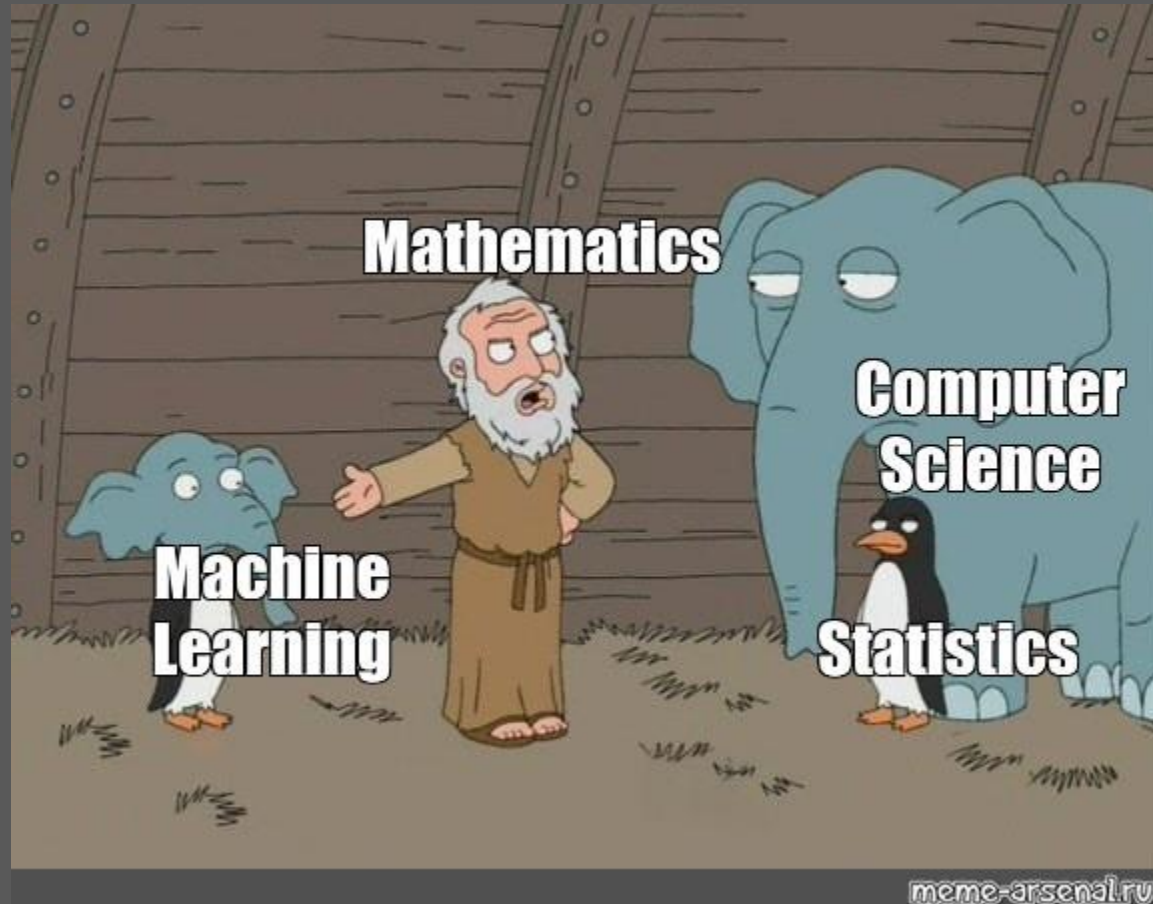
# MACHINE LEARNING

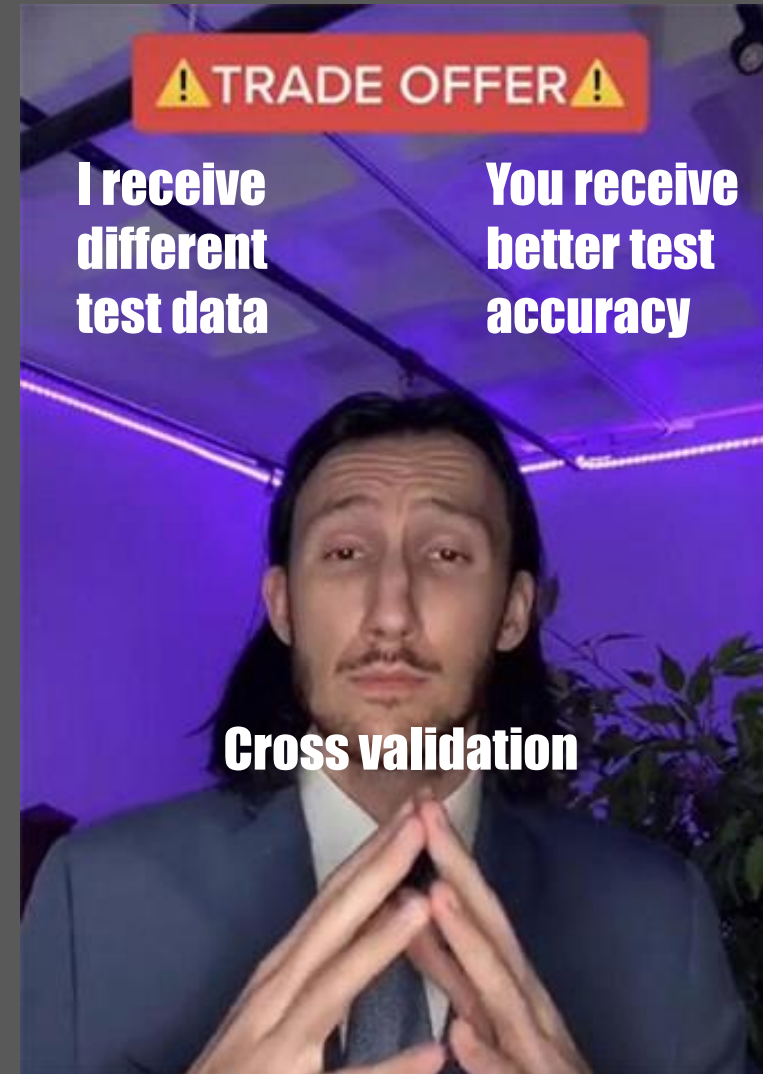
## 2009

2019

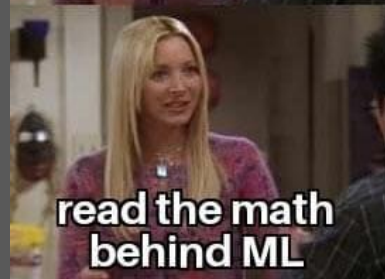
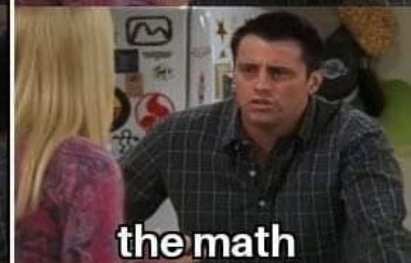
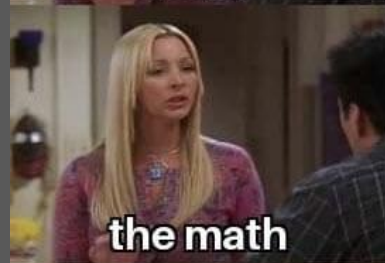
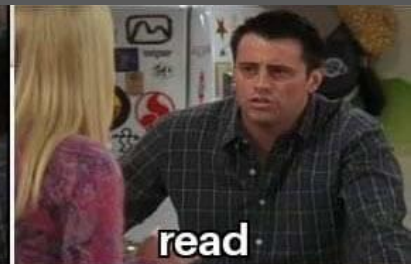
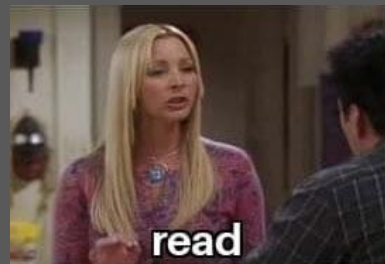
## #10yearchallenge

Basically, math is the backbone of data science and machine learning



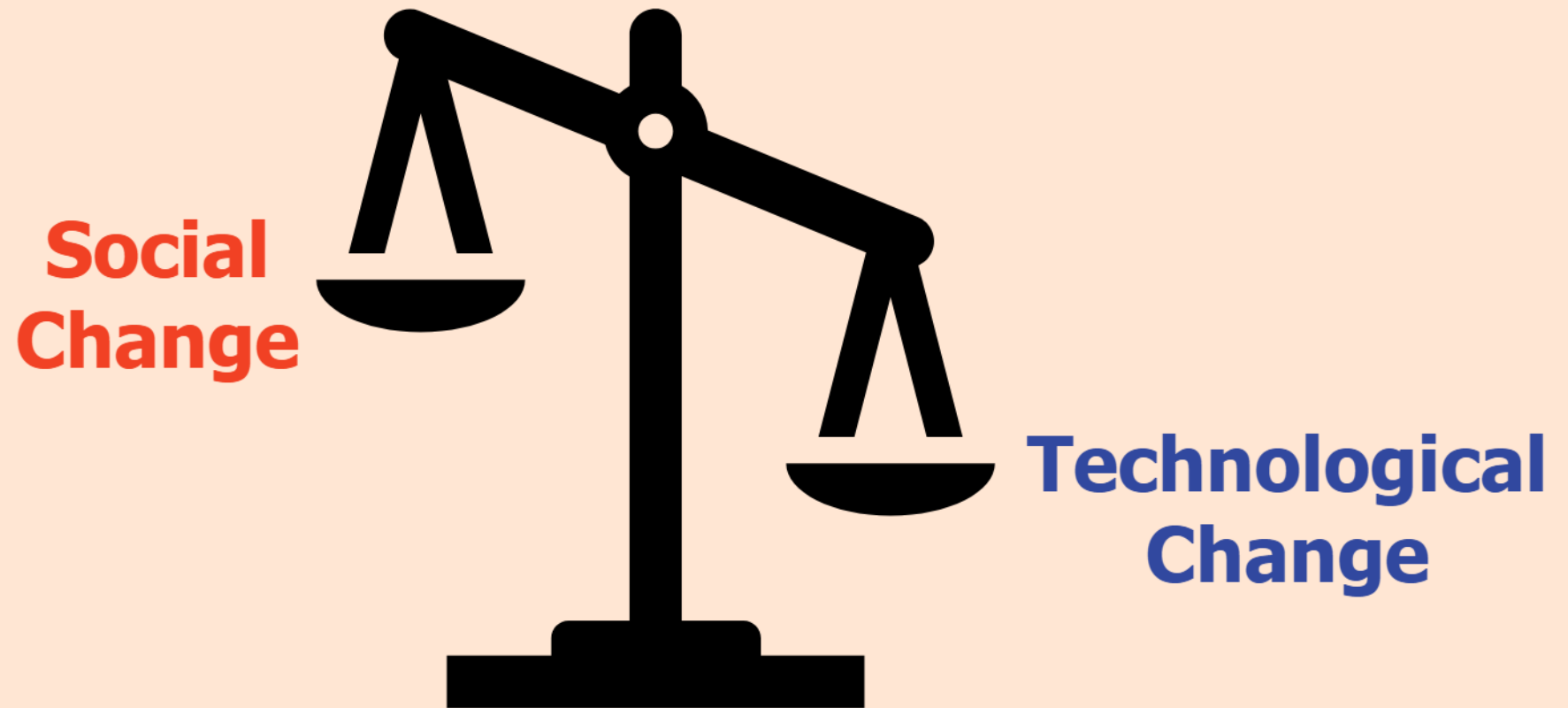




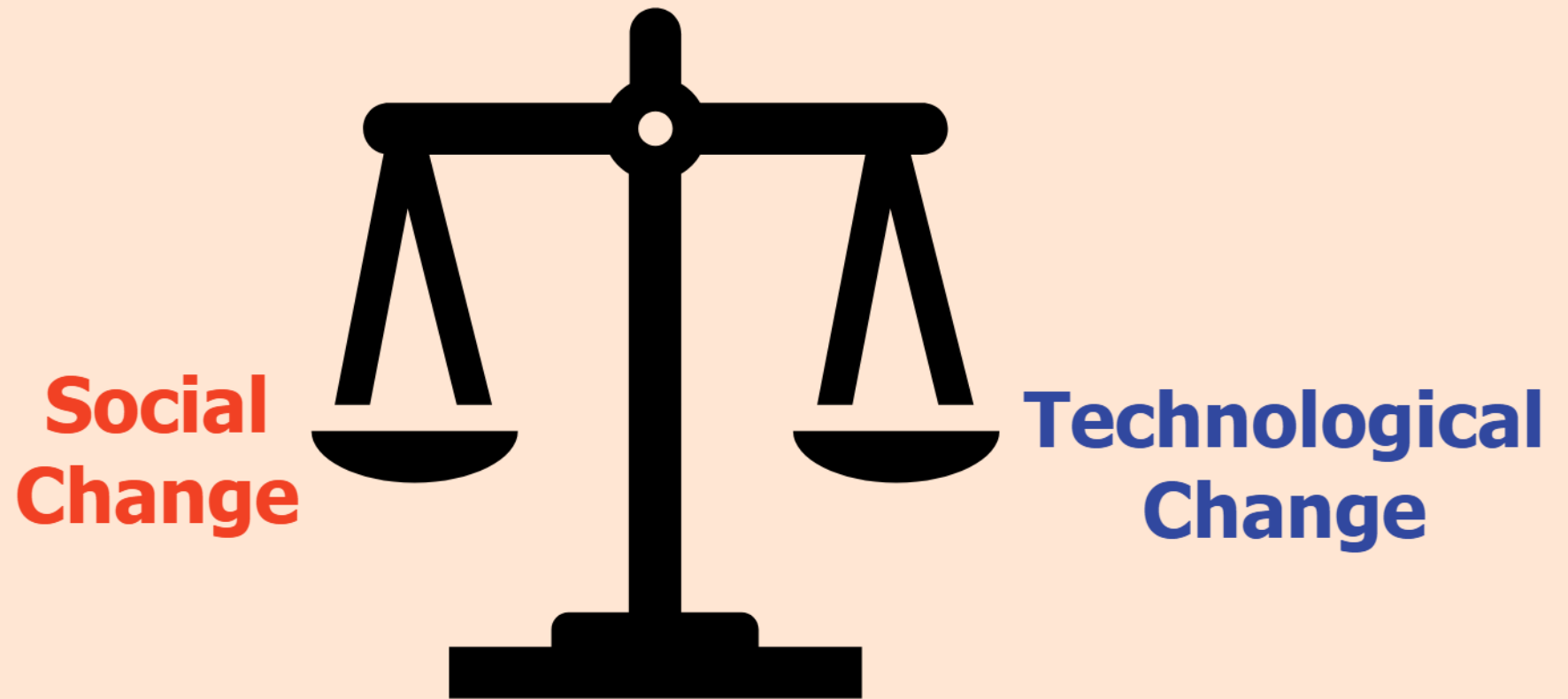


**Let's transition to something  
more serious**

# As a society where we are at:



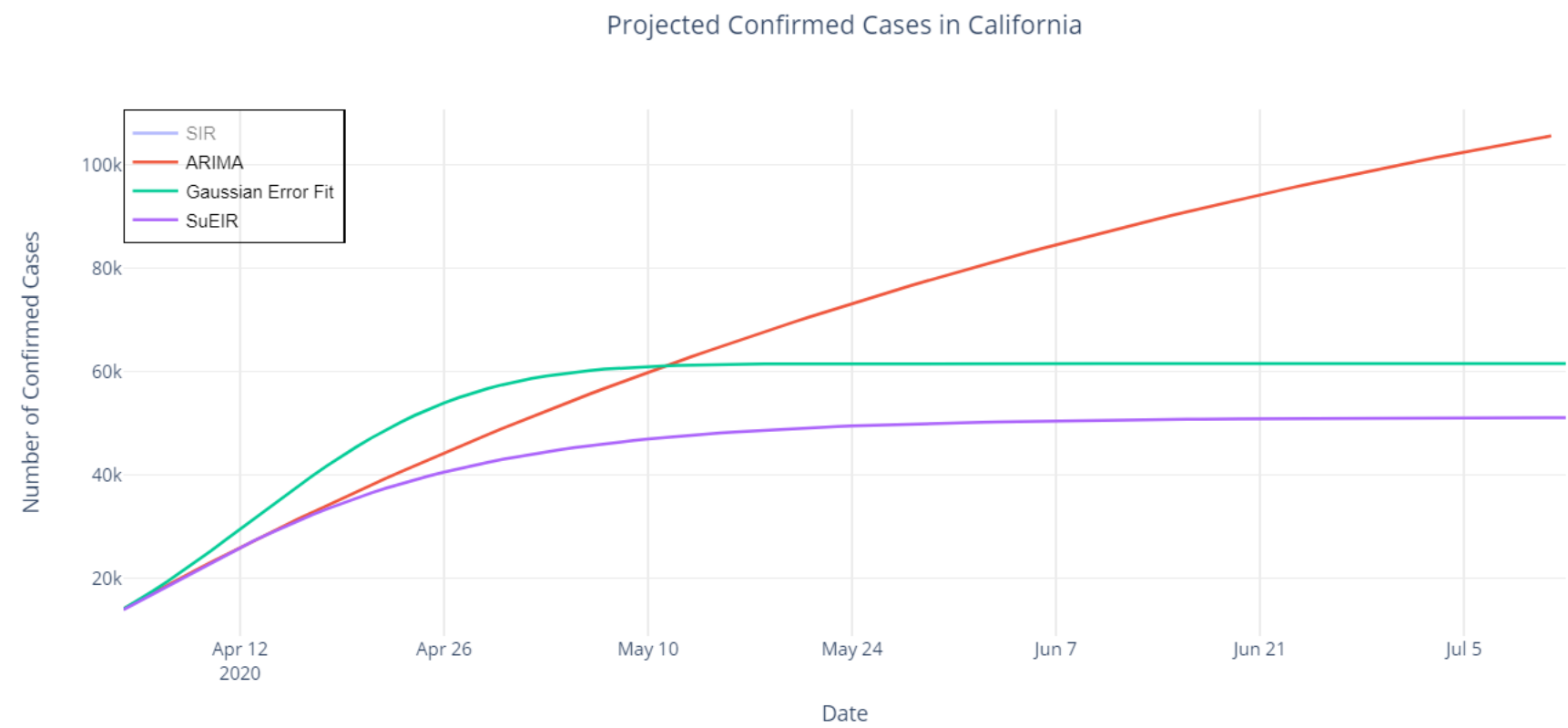
# Where we need to be:





## Prediction of Confirmed Cases in California

Figure 4 shows the prediction of our SuEIR model for the confirmed cases in California. Baseline models are SIR, Arima<sup>4</sup>, and Gaussian error fit<sup>5</sup> (i.e., fitted by Gaussian error function). All the models are trained based on the actual numbers up to 04/03/2020. The results show that the increase of confirmed cases will slow down around the mid of May, and the projected confirmed cases in California is around 51000.



**In my opinion, addressing issue is good, but making the technology impactful to society is the best**

# Abusive Tweets Detection

In Troll Patrol<sup>60,61</sup>, Amnesty International partnered with Element AI's former AI for Good team to utilise computational statistics and natural language processing methods for quantifying abuse against women on Twitter, based on crowd-sourcing that involved participation of over 6500 volunteers who sorted through 288,000 tweets sent to 778 women politicians and journalists in the UK and USA in 2017. The results of the study have revealed worrying patterns of online abuse, estimating 1.1 million toxic tweets being sent to women in the study across the year, black women being 84% more likely than white women to experience abuse on the platform. The core of the analysis was based on using machine learning approaches to pre-filter the data, followed by applying computational statistics methods. The team has additionally evaluated the feasibility of using a fine-tuned deep learning model for automatic detection of abusive tweets<sup>61</sup>. The evaluation suggests that AI could potentially be used to enrich the work of trained human moderators and make abusive tweet detection easier, despite not being ready to be used without human supervision.

<https://www.nature.com/articles/s41467-020-15871-z>

**But always be aware to not use  
technology in too extreme way**



CORONAVIRUS GOVERNMENT RESPONSE

# How Russia is using facial recognition to police its coronavirus lockdown

*Moscow has one of the largest facial recognition systems in the world*

**A camera system that uses AI and facial recognition intended to reveal states of emotion has been tested on Uyghurs in Xinjiang, the BBC has been told.**

<https://abcnews.go.com/International/russia-facial-recognition-police-coronavirus-lockdown/story?id=70299736>

<https://www.bbc.com/news/technology-57101248>



**It is easy to make a technology  
based on impact without  
considering good intention**

# Try to always remind yourself to stay within your own moral

## Indian police use facial recognition app to reunite families with lost children

By Anuradha Nagaraj

3 MIN READ



CHENNAI, India (Thomson Reuters Foundation) - Indian police have reunited thousands of missing and trafficked children with their families using a new facial recognition app that campaigners said was a “game changer” in tackling the problem.

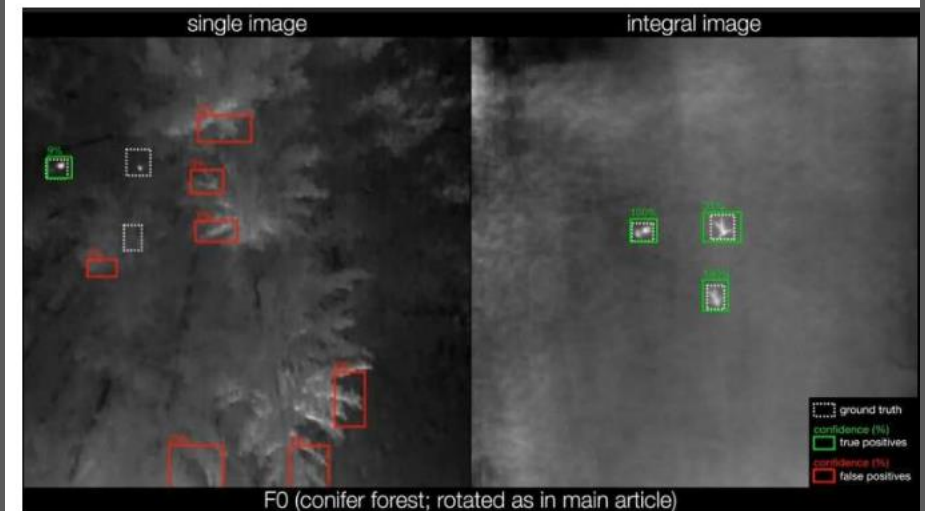
<https://www.reuters.com/article/us-india-crime-children/indian-police-use-facial-recognition-app-to-reunite-families-with-lost-children-idUSKBN2081CU>

<https://techxpire.com/news/2020-11-artificial-intelligence-drones-people-lost.html>

NOVEMBER 27, 2020 [REPORT](#)

## Using artificial intelligence to help drones find people lost in the woods

by Bob Yirka , Tech Xpire



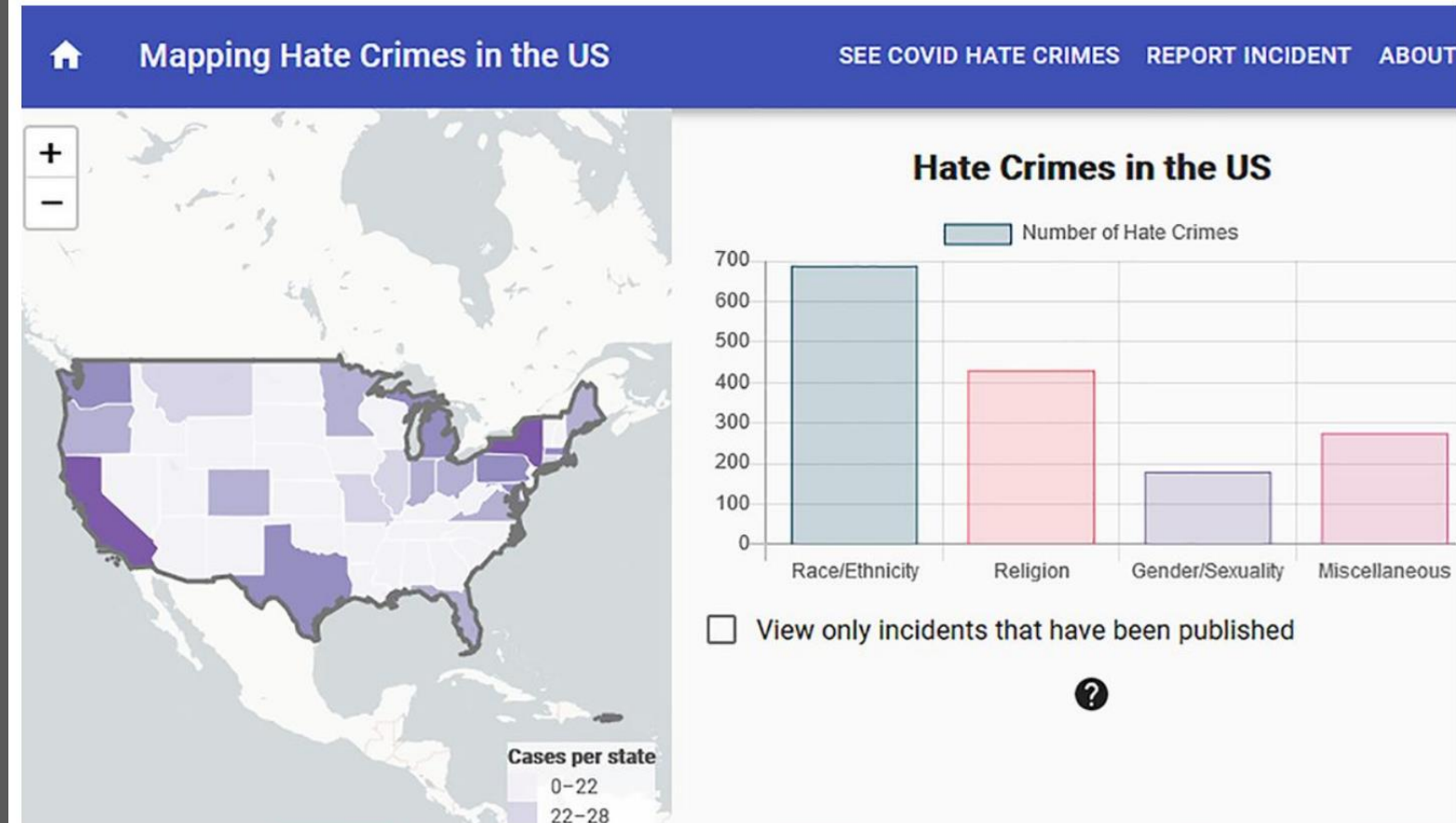
A trio of researchers at Johannes Kepler University has used artificial intelligence to improve thermal imaging camera searches of people lost in the woods. In their paper published in the journal *Nature Machine Intelligence*, David Schedl, Indrajit Kurmi and Oliver Bimber, describe how they applied a deep learning network to the problem of people lost in the woods and how well it worked.

**Remember that technology is  
beyond machine learning. You  
can make an impact to the  
society without AI as well**

# Hate Crimes Map in US / COVID Hate Crime Map

## Interactive map will crowdsource hate crime reports

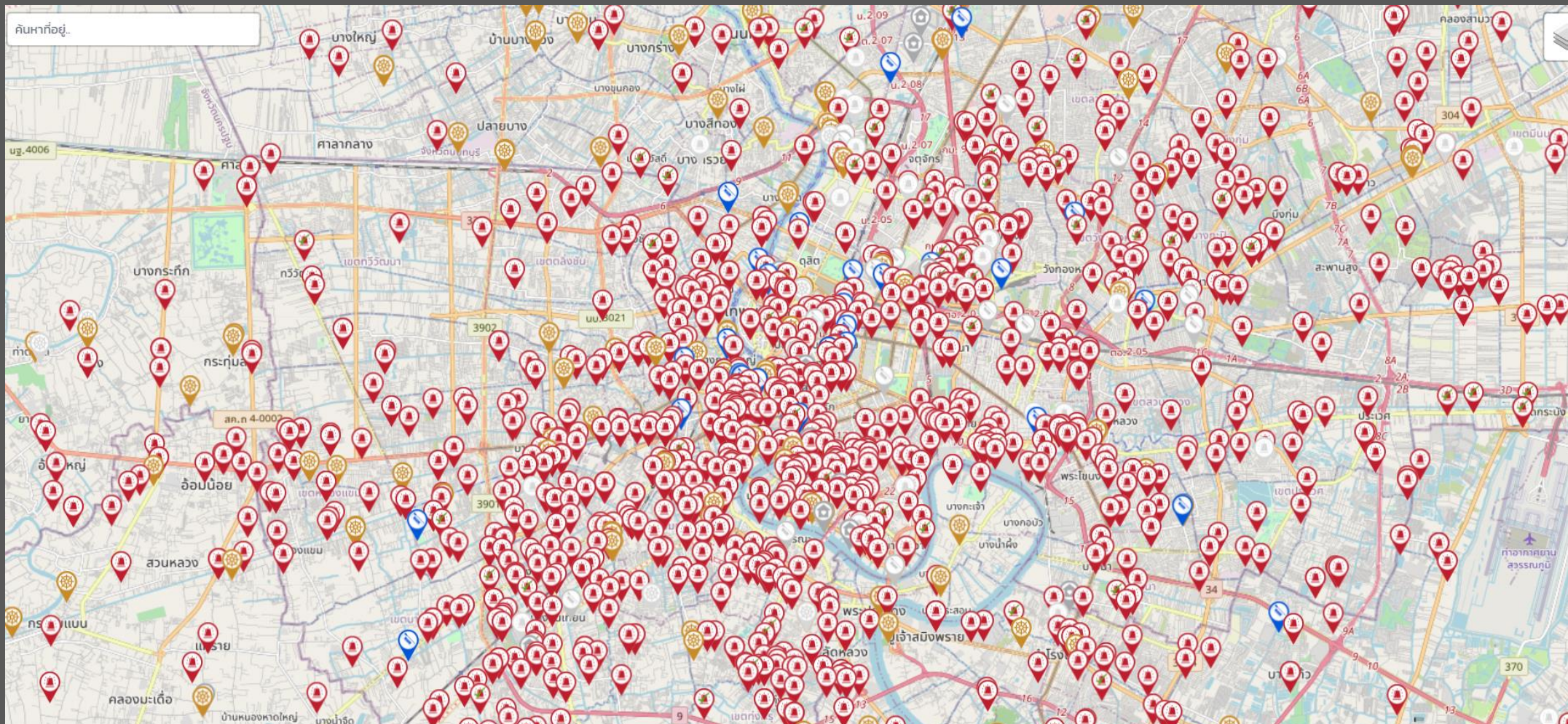
Resource created by UCLA American Indian Studies Center could fill gap created by inconsistent data nationwide



<http://www.hatecrimemap.com/>



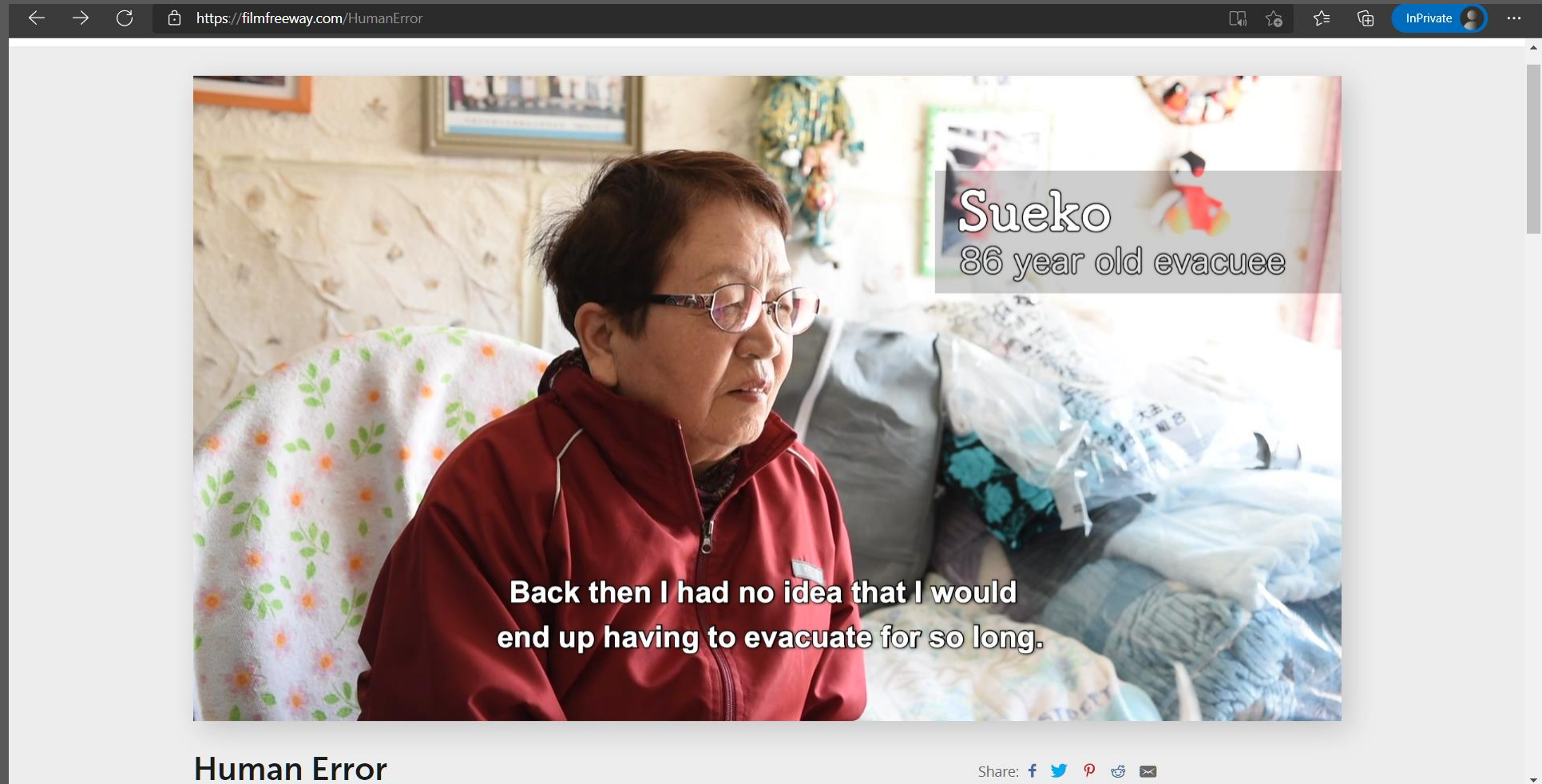
# Thailand Covid-19 SOS Crowd Sourcing Map



<https://jitasa.care/>



# 2011 Fukushima Nuclear Explosion Aftermath Documentary



<https://filmfreeway.com/HumanError>

## Keys Takeaway:



Technology and society goes together. We should try our best to balance them and not letting one goes too far ahead



Always remind yourself to be in a good moral stance



You can also make a societal change through technology, even without machine learning

**Thank you for being an awesome class!**

**Hope you have a wonderful future!**