

Street-level algorithms

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Stanford HCI Group

Street-level algorithms

a theory to fill in the gaps between systems and people

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Introduction

Problems with algorithmic systems

- YouTube demonetizing LGBTQ YouTubers (and not demonetizing violent content masquerading as children's cartoons)
- Algorithmic bias along racial lines in the courts
- The problem of (creative) crowd work

YouTubers



Chase Ross 🐝 ✅
@ChaseRoss

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DO NOT LET YOUTUBE GET AWAY
WITH THIS.

I uploaded my video TWICE to see if the word "transgender" would trigger the algorithm... and every step of the way was fine UNTIL I added the word Transgender. RIGHT away, the video was demonetized.

Literally. RIGHT. AWAY.

Team YouTube 🐝 @TeamYouTube · May 30

Replies to @ChaseRoss

Hi Chase - We reviewed this video and it should now be monetizing. One of our team members will be reaching out to you to discuss the details of what happened. We appreciate your patience while we looked into this!

52 33 773

Chase Ross 🐝 ✅ @ChaseRoss · May 30

Thanks. I look forward to speaking to an actual human about this

7 28 2.6K

Judicial bias



Machine Bias

There's software used across the country to predict future criminals. And it's biased against blacks.

By Julia Angwin, Jeff Larson, Surya Mattu and Larissa Kirchner, ProPublica
May 23, 2016

ON A SPRING AFTERNOON IN 2014, Brisha Borden was running late to pick up her god-sister from school when she spotted an unlocked kid's blue Huffy bicycle and a silver Razor scooter. Borden and a friend grabbed the bike and scooter and tried to ride them



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SCIENCE

Courts use algorithms to help determine sentencing, but random people get the same results

Numbers aren't always as impartial as they appear.

By Sara Chodosh January 18, 2018



You wouldn't trust this dude to decide your fate, would you?
iAmMrRob via Pixabay

Problems with algorithmic systems

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- Lots of work trying to fix these problems, establish baseline ethics, etc...

Problems with algorithmic systems

- YouTube demonetizing LGBTQ YouTubers (and not demonetizing violent content masquerading as children's cartoons)
- Algorithmic bias along racial lines in the courts
- The problem of (creative) crowd work
- Lots of work trying to fix these problems, establish baseline ethics, etc...
- But lacking a generative theoretical framework to guide how we think about the relationships people have with systems

Street-level bureaucrats

Street-level bureaucrats

What are street-level bureaucrats?

- Police officers
- Teachers
- Judges

They're the agents that intermediate between the broader institution and the people the institution serves (see Lipsky 1983)

We have **street-level bureaucrats** in our
sociotechnical systems.

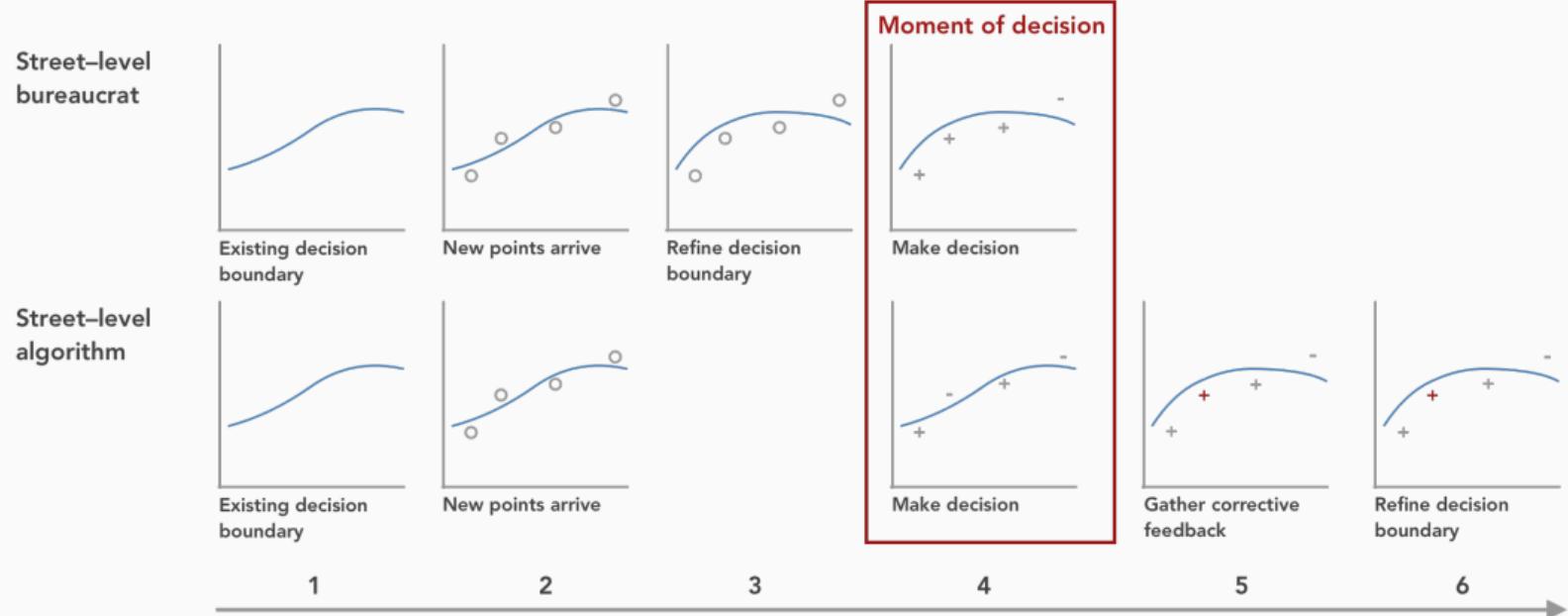
They're algorithms.

Street-level algorithms

The basic issue



How that manifests



What do we learn about...

What do we learn about... YouTubers

If YouTube's content moderation algorithm is sort of a street-level bureaucrat, policing public performances, we see its inability to formulate its reasoning in the moment manifesting when it encounters new kinds of performance art.

What do we learn about... Judicial bias

Algorithmic systems can't handle **intersectional**, unique defendants, and results in myriad misclassification errors stemming from **necessarily** sparse data.

What do we learn about... Creativity in crowdwork

Algorithmic systems judge on what they know, rewarding **expected** dimensions of creativity and penalizing unfamiliar, giving workers incentive to stay as **average** as possible.

Questions, Discussion, Thoughts

If you'd like to take a look at the paper and in particular offer feedback for future revisions, I'd appreciate it a lot!

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