

CS 4873-A: Computing and Society


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Week 12: Technology and Pandemics (Privacy and Surveillance)

April 4, 2021





Technology, the pandemic, and how we can respond **ethically**

The efficacy of social distancing

- Curfews and social distancing have been touted to help mete out the number of infections slowly—because say, 2 million patients over 18 months will be more manageable than 2 million over six months.

Early detection, contact tracing

- Early on in the pandemic, leaders looked for guidance on when to close schools or order residents to shelter in place, and whether the measures they've already taken are working.
- Early research on coronavirus suggested that isolating people soon after they become symptomatic plays the “largest role in determining whether an outbreak [is] controllable.”

Role of technology – Existing examples

- One potentially powerful tool for public health officials is **digital contact tracing**—identifying the people that an infected person has been around.
 - This reveals potential outbreak hot spots, offers some idea of where the virus may spread next, and importantly, warns officials who to contact next and potentially isolate if they become symptomatic.
 - Faster than manual tracing
- Early in the pandemic, the CDC issued a temporary rule requiring airlines to share data on passengers traveling from overseas on request, including addresses, phone numbers, and email.

Role of technology – Existing examples

- Israeli Prime Minister Benjamin Netanyahu rolled out a surveillance program that uses the country's domestic security agency to track the locations of people potentially infected with the virus.
- South Korea has released detailed information on infected individuals—including their recent movements—viewable through multiple private apps that send alerts to users in their vicinity.
 - They're essentially texting people, saying, 'Hey, there's been a 60-year-old woman who's positive for COVID. Click this for more information about her path.'

Role of technology – Novel approaches

- Officials have a powerful potential surveillance tool unavailable in past epidemics: **smartphones**
- Government officials have been anxious to tap the information from phones to help monitor and blunt the pandemic
- White House officials in 2020 asked tech companies for more insight into our social networks and travel patterns

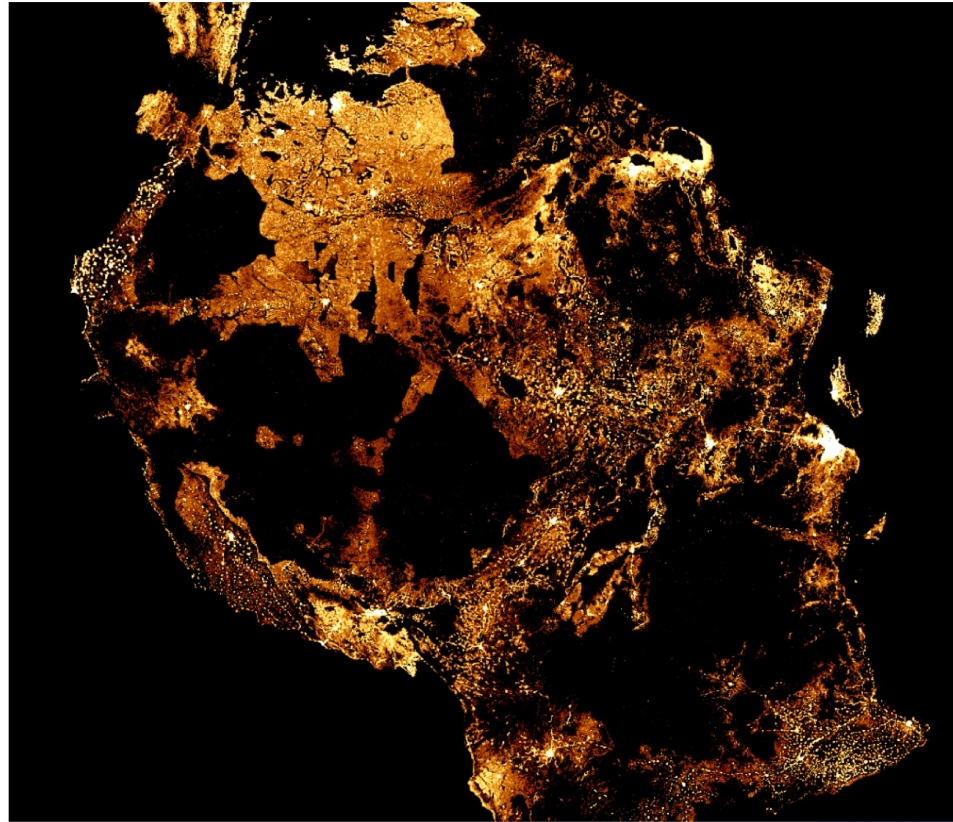
Facebook's Disease Prevention Maps

- Facebook created a disease mapping tool that tracks the spread of disease by aggregating user travel patterns.
- "Disease Prevention Maps have helped organizations respond to health emergencies for over a year and we've heard from a number of governments that they're supportive of this work," Laura McGorman, Policy Lead of Facebook's Data for Good project, said in a statement to Business Insider.



Disease Prevention Maps

Facebook Disease Prevention Maps are designed to help public health organizations close gaps in understanding where people live, how people are moving, and the state of their cellular connectivity, in order to improve the effectiveness of health campaigns and epidemic response. These datasets, when combined with epidemiological information from health systems, assist nonprofits in reaching vulnerable communities more effectively and in better understanding the pathways of disease outbreaks that are spread by human-to-human contact.



Role of technology – Novel approaches

- Another potential -- tap the geofencing capability of phones, to learn who may have been near people infected with the virus
- Police have relied on geofencing in investigations, using broad warrants to request information on every smartphone near a crime scene.
 - Last May, police requested location data from every “Google account that is associated with a device” within 150 meters of a bank robbery.
- In theory for covid-19, Google could notify users whose phones were recently near an infected person.

Role of technology – Novel approaches

- The controversial facial recognition startup Clearview AI says it is in talks with public officials to use its software to identify anyone in contact with people who are infected.
- The weapons detection company Athena Security claims its AI-enabled cameras can detect the coronavirus by spotting fevers.

Privacy threats

- These possibilities raised red flags to privacy advocates
 - European and US laws
 - There's already legal debate over whether such actions would overstep the Fourth Amendment's restrictions on the government's ability to search private property.
- What are the specific privacy threats?

twitter.com/jeanniecrowley/status/1242855851829968896



Home



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Lists



Thread



Lies about camera being broken to stay in PJs

@jeanniecrowley

It might be tempting to trade privacy/security/data for virus tracking, but historically when folks (usually white/cis/able bodied) decided price was "worth it", they weren't the ones paying the price. Thread on all the times marginalized groups paid the price without being asked

12:48 PM · Mar 25, 2020 · [Twitter Web App](#)

112 Retweets 172 Likes

“Public policy must reflect a balance between collective good and civil liberties in order to protect the health and safety of our society from communicable disease outbreaks” the Electronic Frontier Foundation

A balance - Transparency

- The government should be really clear in articulating what specific public health goals it's seeking to accomplish
- * Be clear about how the government is limiting the collection of personal data to what's necessary to achieve those very specific goals
- Making sure that there are appropriate privacy safeguards put in place before data starts to change hands

A balance - Data collection based on science, not bias

- Ensure that any automated data systems used to contain COVID-19 do not erroneously identify members of specific demographic groups as particularly susceptible to infection
 - Avoid bias based on nationality, ethnicity, religion, and race—focus on facts about a particular individual’s actual likelihood of contracting the virus, such as their travel history or contact with potentially infected people.

A balance – Parsimonious use of data

- Any data collection must be scientifically justified and proportionate to the need.
- Even anonymized, aggregate data can inform health efforts.
- Consider a scenario where city officials close bars and restaurants for a weekend, hoping to reduce the number of new coronavirus infections.
 - But instead, infections increase.
 - Some may be the result of exposures days earlier, but tracking where people went over the weekend could reveal new transmission hot spots.

A balance – Due process

- If the government seeks to limit a person's rights based on this "big data" surveillance (for example, to quarantine them based on the system's conclusions about their relationships or travel), then the person must have the opportunity to timely and fairly challenge these conclusions and limits.

A balance - Expiration

- There is a hazard that the data surveillance infrastructure we build to contain COVID-19 may long outlive the crisis it was intended to address.
- The government and its corporate cooperators must roll back any invasive programs created in the name of public health after crisis has been contained.

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DAILY COVER | 7,146 views | Mar 27, 2020, 06:00am EDT

Two Million Guinea Pigs And Counting: The Remarkable Rise Of Self- Monitoring In The Time Of Coronavirus



Is it ethical for the tech companies and governments to partner to use geotagged data to identify potential COVID-19 infections and its community spread?

- Kantian approach
- Utilitarian approach

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Week 12: Technology and Pandemics (Algorithmic Labor)

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Background

- Technology and automation are transforming the workplace
 - Increases in productivity
 - Globalization of job market
 - Organization of companies
 - Telework

Impacts of technologies on work and workforce

AI-augmented work

- Two American work environments in which AI technologies often are imagined to have great disruptive potential: agriculture and retail.

AI-augmented work

- Farming technologies are often simply being deployed, not integrated within existing work practices.
- Retail technologies “hide” the labor of integration and the humans who are either left in the lurch or relied upon to smooth out these technologies’ rough edges.

Jun 8, 2018, 06:59pm EDT

Dislocation And Its Discontents: Ride-Sharing's Impact On The Taxi Industry



Michael Goldstein Contributor @ Travel



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In this June 26, 2017 photo, a NYC taxi medallion. The value of those medallions has plummeted. (AP... [+]

Taxi driving in U.S. cities like New York and Chicago has been a regulated industry since at least the 1930s. A limited number of medallions, representing a licensing fee paid to the city, were issued to taxicab owners. Many taxi drivers worked part time or temporarily,

<https://www.forbes.com/sites/michaelgoldstein/2018/06/08/uber-lyft-taxi-drivers/#1f1490b259f0>

Gig economy

- For the last seven years, gig companies like Uber, Lyft, Instacart, Doordash and Postmates have leveraged the language of “technology” and “innovation” to hide how their business models shift risks on to a vulnerable and largely immigrant workforce.
 - Uber claims itself as a technology company
 - Uber refers to drivers as “driver-partners,” thus disassociating the company from an employer-employee relationship.

Power asymmetries

- Ethical problems of the misclassification

Rosenblat, A., & Stark, L. (2016). Algorithmic labor and information asymmetries: A case study of Uber's drivers. *International Journal of Communication*, 10, 27.

Power asymmetries

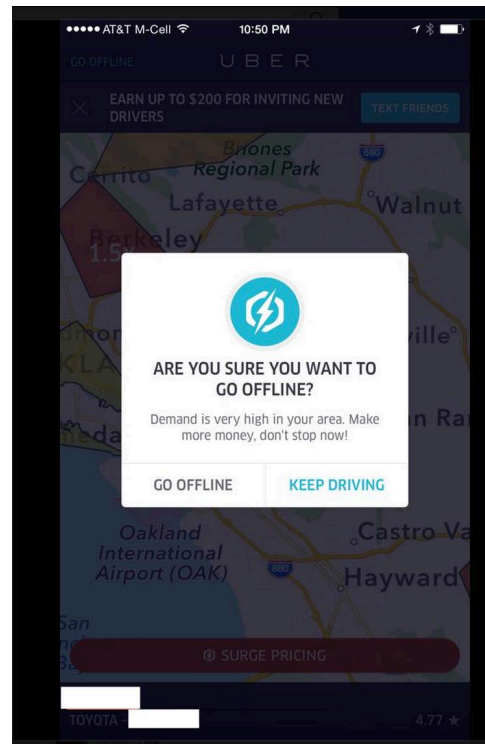
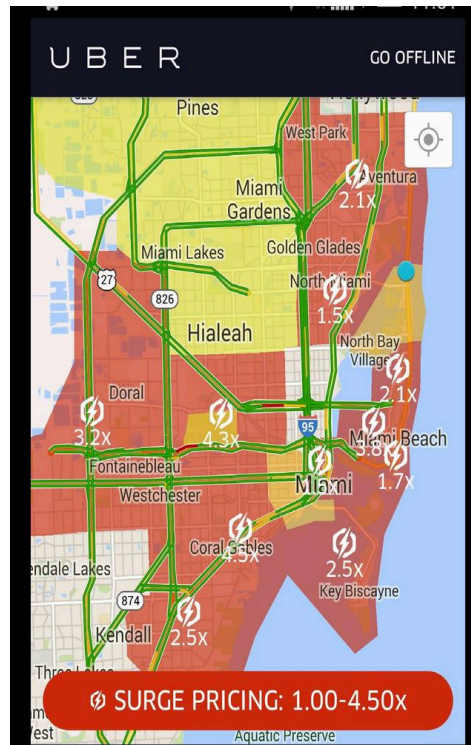
- Drivers risk “deactivation” (being suspended or removed permanently from the system) for cancelling unprofitable fares.

Show the destination before. If we're independent contractors, we should have the right to refuse. If I look down and it's 3:00 in the afternoon and the guy is going to JFK, I'm not going to take it. When I get to the guy's location and I get to JFK, I'm not going to make \$40 for 3 hours of work... They tell us it's our choice whether to take a trip or not, so how can they penalize us for that?

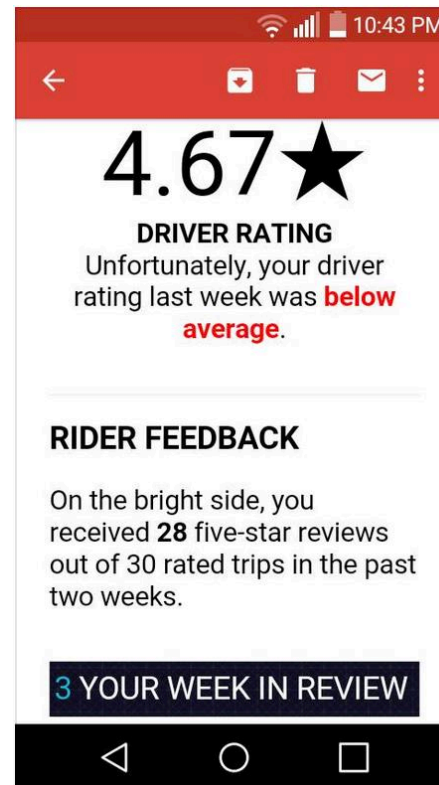
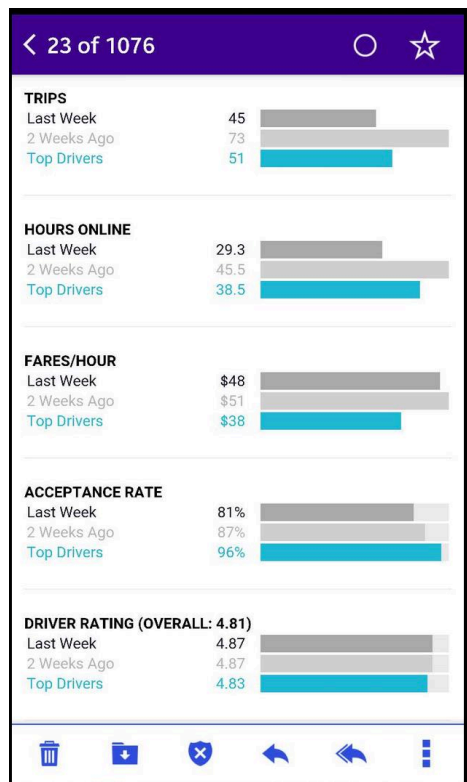
Power asymmetries


- *Entrepreneur is, I feel like a bit of a stretch. I mean, I feel like the definition of an entrepreneur is, you know, having your own idea and taking off with that. I feel like Uber is just like a side gig, not any kind of entrepreneur endeavor... I don't feel like entrepreneur is a great classification for drivers, unless you're running a business out of your Uber car, I guess that's something an entrepreneur could do.*

Power asymmetries



Power asymmetries





Power asymmetries in algorithmic labor during a pandemic

Story of Ahmed

- For the last week, Ahmed, a driver for Uber and Lyft, has faced a heartbreaking choice: starvation or sickness.
- For unprotected gig workers like Ahmed, the Covid-19 pandemic is a crisis on top of a crisis.



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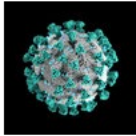
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The Coronavirus Crisis



Amazon, Instacart Grocery Delivery Workers Demand Coronavirus Protection And Pay

March 30, 2020 · 8:47 AM ET

Heard on [All Things Considered](#)

ALINA SELYUKH



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<https://www.npr.org/2020/03/30/823767492/amazon-instacart-grocery-delivery-workers-strike-for-coronavirus-protection-and->



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Instacart claims 'absolutely no impact' from planned workers' strike

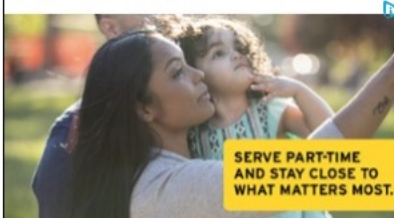
The company says it sold more groceries in the past 72 hours 'than ever before'

By [Kim Lyons](#) | Mar 30, 2020, 6:00pm EDT

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Uber's response

Should Instacart, Uber, and Amazon have provided their workers sick pay and increased protection from COVID-19 infection?

Kantian perspective

Act utilitarian perspective

Social contract theory perspective