Towards an Ethical Digital Society: From Theory to Practice
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**Lecture - 05**
Data or an Anti-Politics Machine

My name is Janaki. I am here on the faculty of IIIT. Like Bidisha I teach on this domain called IT and society here. And I have several interests. I have been working in this broad field of ICTs and development for over a decade now. And I have seen it go through various kinds of phases. There was a phase when there was a faith in community village centers.

Over the last decade and a half, there has been a lot of faith placed in mobile phones and various iterations of mobile phones, and what you can do with them. So, I have seen some of that. More recently, in the last couple of years or so anyone who works in this broad space has come across this idea of the future of work and AI. And I confess that I have also been taken into that whole rhetoric.

So the idea really is that I have also been teaching this course called privacy with a couple of my colleagues. So what I am going to try and do today is that we all come across a wide variety of claims about what data can do, as well as negative stories around things that have not worked out, etc. And I have been struggling a little bit to try and see if there is a sort of broader understanding that we can draw out of this.

And that is where I am using this frame of an anti-politics machine. And what I am hoping we can do today in conversation, is to try and see if this frame A helps B fits. Three, what are the kinds of cases where it fits, maybe there are cases where it does not fit, right. So that is sort of the broad agenda. And at the end, I will sort of tie it up to the notion of ethics as discussed yesterday and see where politics comes in that entire space. Any questions so far? Alright.

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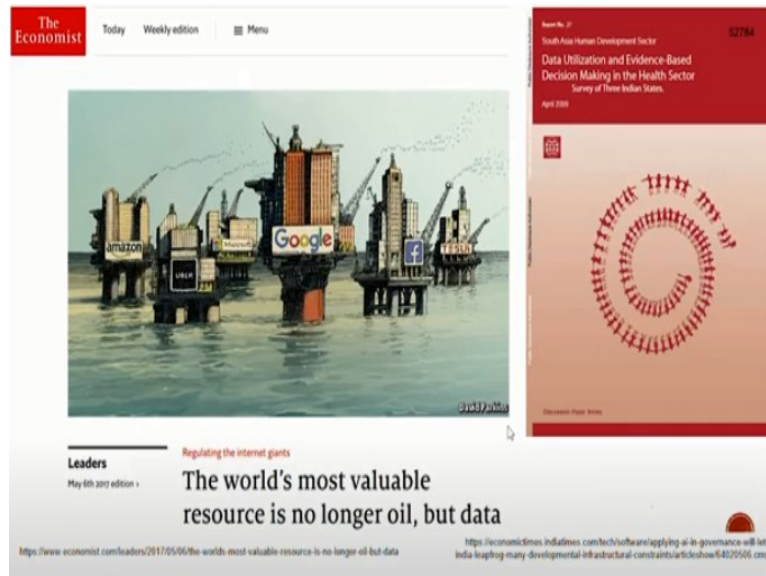
So we have all been hearing about data, right in various forms. And what differs across these stories might be the kind of actors we are talking about. So there is a lot of conversation around private enterprises, and how much data they have, how they can leverage it, etc. There is also conversation about using it in say, policymaking, right.

So data that informs what kind of policies you make, there is also a data field there. So this is a World Bank report that is looking specifically at the health sector. How do we use evidence and data in making those policies.

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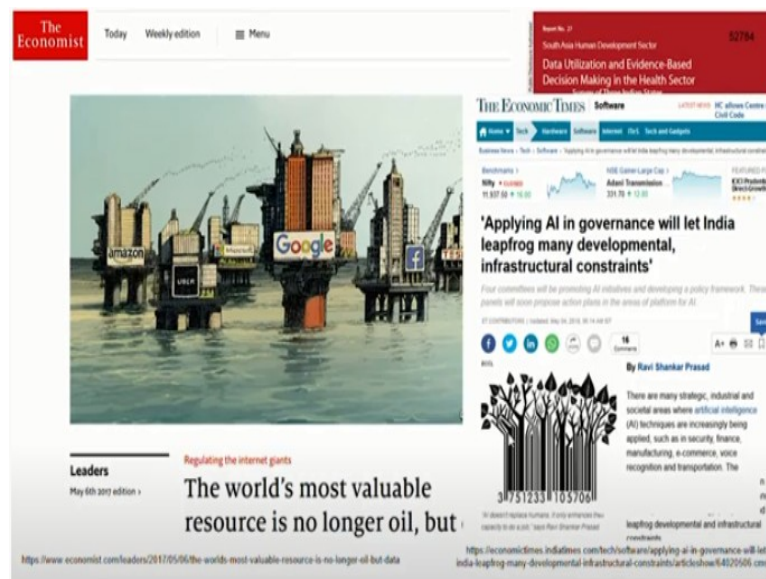
And then there is been conversation about data/AI, it goes back and forth in governance, and how the use of that is going to lead to particular kinds of governance,

improve governance etc., right. So these are all different actors. Everyone seems to be enmeshed in the story about data and the kinds of things that can lead to, right.

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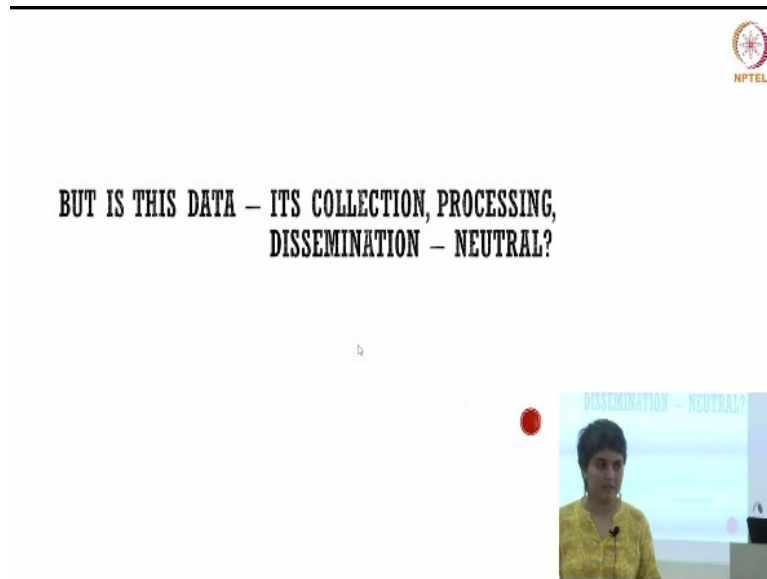
So let us step back a little bit and think about this thing that we call data, right? It goes through various phases. It is created, it is collected, it is aggregated increasingly. It is processed in different ways. It is disseminated in different ways, right? And the question that I really want to get at today is, are all of these processes neutral? And here, we will talk about neutral the way it was brought up yesterday, right?

Can someone sort of remind me what we meant by neutral? Did this term come up yesterday? Do you remember? So it was brought up in the context of technology not being neutral. That was the argument that Bidisha was making, right?

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POINTS OF DEPARTURE

- The politics of technological systems
  - Not good, not bad. But also, not neutral
  - Examples?
    - The infamous Moses bridge (Winner 1998)
    - Green revolution?
    - Sidewalks!
- The politics of 'the human' at the centre of "human-centered design" of data systems
- Data as an 'anti-politics' machine?

So those are some of the points that I want to go back to and start out with. So the politics of technological systems, right? Not good, not bad, but also not neutral, right? And can you guys think of examples of that, before we get into the whole data story? What are examples of technological systems not being neutral? And let us try and stick to everyday technologies, right, let us not get into the gun debate today, for example.

Think of a technology that you would think of as being essentially neutral. And can you think of how it might not actually be neutral in whatever way and we can discuss why you think it is not neutral? Older technologies, that do not necessarily have to do with data in the same way. Because this is not a data thing, right? We are talking about the non-neutrality of any kind of technological system.

So there is one famous or infamous example of a bridge in northeastern US that was built by this great builder called Robert Moses, anyone heard of this? Especially those of you with a sociology/STS type background. So this is a fascinating story. It is been disputed that have been it is one of those things where people have written papers for and against. So there is actually been a conversation in academia around this one bridge.

So the idea is that this was a bridge that was built, I think somewhere around the New Jersey Turnpike or something if I am not mistaken. And the point was that this was built, this had a flyover over that bridge, right. So this was basically a bridge that was

going to the beach, but it was built under a bridge, whose height was such that you could not actually have buses go through that, right.

Why is this not neutral? Why would someone argue that this is not neutral? And what does that mean? So the argument being made here was that Robert Moses actually, on purpose, in this case, designed this in such a way that people from lower income groups in the city could not go to the beach and the beach could be left free for other people. Because unless you had a car, you could not really get there.

And the buses were not going there, right. And again, like I said, there has been a lot of dispute about if this is correct, if this was how they arrived at that, etc. But as an example of technology not being neutral, I think it is useful. Any ideas why Green Revolution might be called not neutral? Yeah, so today, we need know that it leads to certain kinds of implications.

But even for the use of the technology at that time, yeah. And even within a state, right, this requirement for inputs, whether it is pesticides or water, meant that certain kinds of farmers were more able to embrace them, right. And years later, now we see that.

But also there was interestingly, a gender difference also which was some of the equipment that came with the Green Revolution, including certain kinds of harvesters, etc., basically took away jobs from the people who were doing it earlier, very often, this was women, right? And they would also get all kinds of leftover grain.

Now a very efficient equipment actually meant that those leftover or fallen over grain did not actually exist, right. So again not, I also want to make it clear here that we are not saying it was designed necessarily with a bad intention. But it was designed with certain kinds of users in mind. And that then went on to not make it neutral, right? Anyone thinks sidewalks are not neutral? Your footpaths outside?

This is a pet peeve. So I am just taking this opportunity to bring it up. It might not apply at all. So you are basically talking about a situation where the sidewalk is made after clearing out people who are selling from there, okay, fair enough. And what

about after it is made? Are there people that it is more or less useful for.. accessibility? Yeah. So accessibility is a definite issue.

In the Bangalore case, it is inaccessible to everyone. In that sense, it is pretty equal, because I do not know if you guys have stepped outside and seen the height of it. In fact, there is one right outside our institute where there is a step to the footpath, which I thought was quite interesting. Anyway, so just to point out the idea that technologies are not neutral. There is another aspect to this.

We have been hearing a lot recently about this idea of Human Centered Design, right. But another way in which politics comes into this entire framing is who are these humans we are talking about, right? Already, when we were talking about the non neutrality of technology, when you design you typically design for someone. So who is the default user you are thinking about.

Sometimes it might be a very focused targeted population. At other times, it might just be the kind of default user you think is going to use it, right? So it might not necessarily be targeted, you think it is for everyone, but in your mind when you are designing it, you bear a particular image of what the default user is.

So I think it is also important to ask who is the human at the center even of more sensitive thinking design called Human Centered Design, right. And what I am going to argue in all of this is that data steps in as what I call an anti-politics machine. Now anyone know what an anti-politics machines is or even before that, what an antigravity machine is, which sort of influenced the author coming up with this term.

Ever heard the term antigravity machine or what does it sound like? What might an antigravity machine do? Defies okay. So you are there. It suspends gravity, right? So it is something that has been the stuff that sci fi has been made of for a long time. And the anti-politics machine is a similar concept, which basically talks about the suspension of politics. Anyone encountered this term before?

Because I know some of you have a development studies background yeah. Do you want to, no? Okay. So this is something that comes out of the work of an

anthropologist James Ferguson, who is studying how a development project works in the nation of Lesotho. Anyone know where Lesotho is? So Lesotho is a country in Africa. It is completely surrounded by South Africa, right?

It is a completely landlocked country. And his larger argument, we are of course not, his research is not what we are focusing at here. But basically, he is talking about a development initiative that goes into Lesotho, sponsored by the World Bank, basically saying that, hey, the farmers here are risk averse. They do not know how to plant their crops well, their agriculture is not doing very well, their incomes are low.

They also do not seem to breed livestock. So let us make these farmers less risk averse. Let us teach them how to be better farmers. Let us see if we can get those incomes up. And long story short, he basically says that does not quite work out, etc. But he says what happens in the process of framing what is going on in Lesotho as this problem that can be solved by these guys from outside coming in.

And proposing this technical fix, which in this case was here are better ways to grow livestock, here are better ways to farm is that they do not look at politics at all, right? And what does he mean by that? He says basically, the one of the reasons for people's poverty is how is not that they are landlocked and not going anywhere but because of the particular ways in which they are connected to South Africa.

So turns out, there is a lot of labor migration from Lesotho to South Africa, they are paid very bad wages. But changing these wages would require having a conversation with South Africa, which is a or which is obviously a much more powerful country, etc. So that is the kind of politics that is getting suspended here.

But his larger point is that when you propose a technical fix, a technological fix to what is essentially a social and political problem, you do two things. One is you behave as though there is no politics, right? And there is actually a certain kind of politics that is created by the development initiative itself. That also you are not able to see.

So this idea of going into a situation not being able to see the politics in it, is what I am going to run with for the rest of this talk, right. So is there a way in which data today is disallowing us in some ways from seeing the politics, right. So that is the idea that I am putting out here. And let us see how far we get with it.

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Alright. So if we start with data collection, right. And also just because, again, once again, I have the stage, I can talk about whatever I feel like. Therefore, I will talk about fingerprinting, because it is so interesting, right? Data collection is by far, it is not like it started in the last 10 years, right. And states especially have been gathering data about the population for a really long time.

If we look to Colonial India, we see some of the earliest sort of innovations around technical ways of like technological innovations that are focused specifically at data collection, right. So we are going to go back a little bit and then come back to this.

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Big data circa 1936

2.1. Big data, circa 1936: Social Security was the heftiest venture of its kind, the agency describing itself as "the largest bookkeeping operation in the world."

So clearly, what we call the state gaze or big data is not it did not happen only 20 years or 5 years back. This is a very nice picture of the Social Security system that was started in the US in the 1920s. And this is all the data that they collected and stored right, which was big data in 1936. So we come to, I should actually not have, let us pretend like you did not see that. Who knows what a Vernier caliper is?

Can you say a little bit more? What does it help you to? Right. So in the 19th century though, it was part of what is called anthropometry, which is a way of measuring 11 bony parts of human bodies. And it was seen as a way to classify people, right. There is also a history here of the popularity of the science of eugenics at this time, which meant you were trying to connect people's physical characteristics to things like their intelligence or criminality.

So this was actually fairly accepted or at least it was seen as being at the cutting edge of novel science in some parts, right.

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The State gaze

• 1879 (France, later England, India and US): The Bertillon method
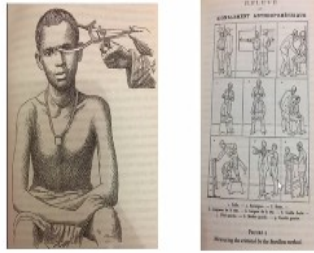
Source: Sengoopta, C. 2003. *Imprint of the Raj. How Fingerprinting was born in colonial India.* Pan Macmillan.

So what happens in around 1879 happens first in France, but is then picked up as a method around everywhere is called the Bertillon method. So basically, this guy Andre Bertillon comes up with not just these 11 measurements, but also how to classify them. And basically, this was seen as a way to quickly identify criminals, right. So that was one of the purposes to which this was being this was being used.

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Source: Sengoopta, C. 2003. *Imprint of the Raj. How Fingerprinting was born in colonial India.* Pan Macmillan.

And this is how it looks. So you had very detailed measurements. So essentially, what happened was if you suspected someone of being a criminal, you would measure all these body parts, make a catalog card, and then there was a way in which you classified those cards. So the idea was the next time you brought in someone, these were supposed to be unique, the 11 body parts together.

So the next time you brought them in, you could presumably sort of connect and be able to identify them.

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So this is more of the same.

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And at about the same time slightly earlier there is also the development of fingerprinting, right? While anthropometry was mostly focused on criminality, data collection with fingerprinting actually began for a variety of civilian purposes. So saying that you sign on to a contract that was one of the first purposes. And this was started in India with Indigo plantation, right.

So uh I just wanted to bring this up to get a sense of the various kinds of data that was being collected.

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But I think there is a larger point here, which is the point here is whose data and privacy, right? So when we talk about the politics of data collection, whose data was being collected here, and what were the differences? Was everyone's data being collected? How are these decisions being made about which populations you were collecting this data about, right?

So there are some very fascinating quotes here. So on Edgar Thurston who was the curator of the museum in Madras. He basically says, a visit to the government museum in Madras was always a pleasant experience, though at first alarming. Such was the author's zeal for anthropometry that he sees every man, woman or child in order to measure them, right. But when someone tried doing this in London, it did not quite go so well.

And they were seeking voluntary experimental subjects, right. So you already see how the socio political context of the time which was colonialism allowed for certain kinds of people to be made into subjects for this and data about them was collected, whereas another case is there was an understanding that you had to ask for permission. In France, every person arrested was measured by the police.

But the keeping with the French British cultural wars forever, they said that "But it would not be consistent with English ideas, to entrust to the police and arbitrary power of measuring or photographing every person arrested without authority from magistrate. And without regard to the necessity for the purposes of justice of discovering his antecedents and category".

Anthropometric measurements were suggested as the best way to register and control traits identified as criminal in India. So throughout, you see a distinction between whose data it was okay to take, who in which cases you needed permission, who you even wanted to collect data about, right? So all of these were obviously reflective of the context of the time.

Fingerprinting similarly, it was a compulsory signature for those executing deeds and contracts as well as other civil situation in parts of India. But it was used solely for criminals in Britain and in the US. And in the US case, for example this author basically says that valued fingerprinting for its ability to decipher the masses of racially unfamiliar, and thus menacing streams of newcomers from American cities, whom the state might have had an interest in knowing.

Of course this all does not feel that distant, given what is happening, both in the US and the Indian context today. But the point here is really to say that there is a socio political context within which something like data collection is taking place, right? So if I say where is the politics in this, what would you say? What are the different ways in which politics enters this conversation?

Okay, so that might be how you take this forward, but I think even the decision to collect data, and who you are collecting it about right, is shaped by these kind of considerations about who can you do it with? Who can you take these liberties with? It is essentially about relationships of control of power, right? All of that comes into how you even conceive of data collection, right.

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Big data today?

St. Louis Uber driver has put video of hundreds of passengers online. Most have no idea.

So we obviously are looking at a slightly different time today in terms of who all is able to collect the data. Presumably, going around with a Vernier caliper was not something that every private enterprise or individual could do, right? You needed state backing for some of these enterprises. But it is becoming increasingly clear, easier and cheaper for more and more people to be collecting this data.

So this was a case from I think, two or three years back in the US, where there was basically this driver, Uber driver, who was collecting data about every encounter that he had in his cab. And he had a live YouTube channel on which he was streaming this. And this also went to court and so on and so forth. And strangely the state where it happened apparently you only need one person's permission for recording.

So I have no idea what that is about. But the point here is that these were all people who were really upset when they found out about this, not because there was like illegal or criminal activity or anything, but because you want to know when you are being recorded, right? You all know for example, that this is happening, right?

So the point here is that it is becoming easier to do some of this recording without anyone even knowing about it. You cannot have a Vernier caliper to your head, without knowing about it, that could not have happened. So some of these have shifted. But what has not shifted, I am arguing is that there is still a politics to whose data you collect, what you are able to do with it, etc.

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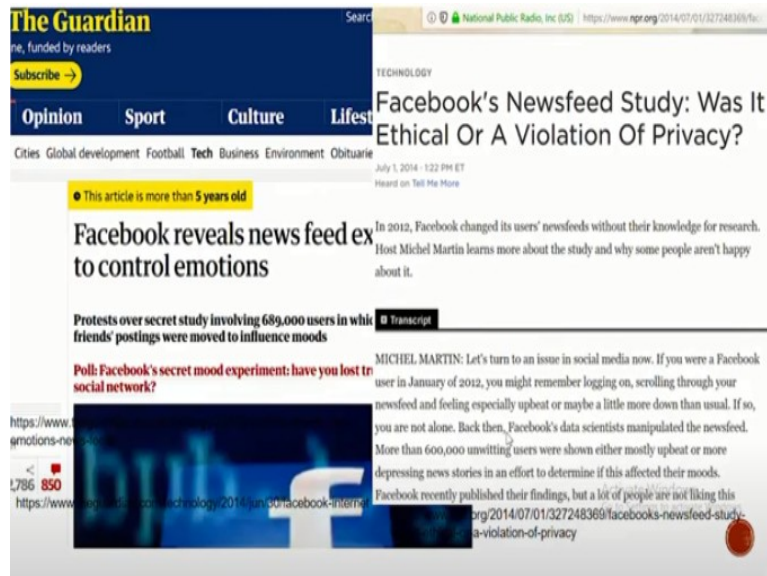
So and nor is this only about the building of technology. This was a famous case that happened again I think the data was from 2012. But I think it came out in 2015 or 2016. This is about how researchers use data, right? Researchers have more and more access to data. Does anyone remember this case? Come across it? No this is not actually Cambridge analytical. This was an academic study.

Any idea about the controversy? So basically what researchers were doing and some of them was within Facebook, they were trying to manipulate people's news feeds in particular ways. So they wanted to see what kinds of news feeds made people happy or unhappy, right. Which as a research goal might have been okay, but the way they achieved that was through actually changing people's news feeds.

And the people did not know this was happening, right? So they were **very,** very upset. And there is till date there are debates about whether this was ethical or not, were the benefits of this research outweighing its costs, etc. So that brings us to another important point, which is that even in the state examples that you looked at, very often data collection is done, because it is supposed to serve the public interest, right?

You remember that discussion we had yesterday, right? About how when you weigh different options, how do you decide which one to go with. So the idea of public interest is something that comes up all the way. And it was also true here. For

example, in the US you have to go through a research ethics process to get your research cleared.

And one of the things that we will look at is whether the costs of the research, the benefits of the research are worth the cost that individual people have to take on, right. And this one, the jury is still out on this one. Lots of people were very upset with Facebook. There were lots of angry letters, etc., right.

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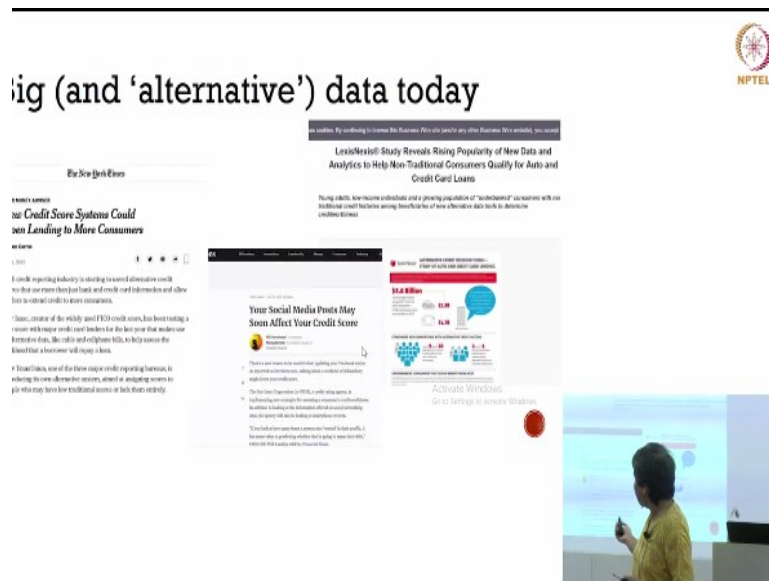
Alright. So the other kind of difference in how data gets collected today is the number of sources that are available and how you are able to aggregate it, right. So there is this notion of alternative data. Have any of you come across this idea of alternative data? No one? What might alternative data be? What is that? Proxies and I guess one of the most important contexts in which they come up is this idea of credit scores, right?

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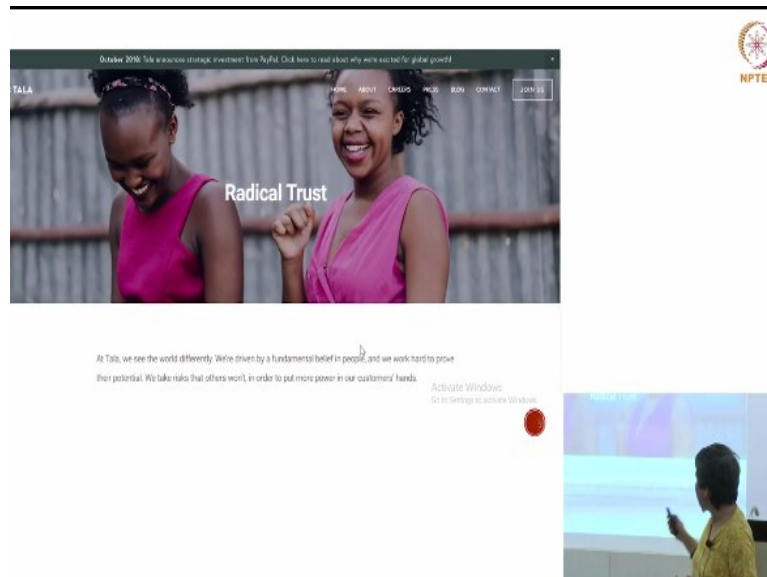
So I want to go on to this data aggregation and processing now and I will just play you a short video of what is called a FinTech firm. **(Video Starts: 24:38) (Video Ends: 31:50)**. Alternative data, now do you get a sense of what that is from here? What is the conventional data for creating a credit score? And what would be alternative data to arrive at the same thing. Alright.

Let us take another step back. What is a credit score? Why do you need a credit score? Anyone? Right. So yeah, so and the credit score institutions are way more established in other countries. But the idea is every person has a credit score, which is based on all kinds of financial transactions that they undertake, earlier loans they have taken. So these are things that people look at for a variety of purposes, giving loans is one of them, right.

So what is the argument that the founder of this FinTech is making? Why do not credit scores work for people, conventional credit scores? Not recorded financial activities, right? So they do not they have not necessarily taken a loan from a bank in the past. Therefore, they do not have a credit score, therefore they would not get another loan, etc. And it is a very slippery slope from on there, right.

And what is she saying is what is the company that she is talking about doing? How is it getting over this problem? So the idea is there are a lot of people like this who need money, who want to set up something say, or for other reasons, who are not judged credit worthy, because they do not have this credit history or a good credit score,

right. But now she is saying there are other ways in which you can get data about who they are, how creditworthy they might be, right.

Why is that? Where is that data coming from? And what is making it possible for these guys to know that? Because presumably, she is always been doing that, right. But the banks were not taking account of that. Why is that? What is the factor here, the technological factor? Hint. Yeah, she is talking about a mobile phone, right? So she is basically saying many of these people might not earlier even have had a bank account.

So there is no history of their financial transactions. Now you have a mobile phone on which you have other kinds of transactions. What is so from what I have said already about credit scores and how they might be calculated, is there a difference in the kind of data that is getting captured? Not just how or what makes it possible, but is there a difference in what kind of data is getting captured?

What is the difference? It is called alternative data, right? So that might be part of it, they actually cover a lot of ground. Every company is different. Essentially, their USP is how their credit score is different. Yeah, I was going to come to the question of bias, but from another direction, but how about this?

Does richer data actually lead to the kinds of bias that for more straightforward, institutionalized banking transaction, as we traditionally know it might not, right. So as soon as you move beyond the directly financial transactions and incomes, a bunch of questions come up, right. I wanted to first set up the idea of why this is even being offered, is that clear?

Then we will move on to sort of the flip side and what the issues are. So there are a lot of FinTechs out there today. And the goal is that there are lots of people who are not able to get loans solely because they do not necessarily have a recorded credit history. Here is a lot of data that they are generating in other aspects of their life. Can we leverage that to give loans, right. So that is the basic idea.

What the founder, you just heard her say is it allowed them to give loans to someone who was not able to. So this is the best case scenario. They looked at all this data, they do it with informed consent, and we can debate at length about whether informed consent is really informed or consent, but that is not what we are going to do today. So they did all that and they decided this person was a thumbs up, we are going to give them a loan.

Now let us look at someone who does not get that loan, right? It might be for a variety of reasons. These guys pointed out a couple, right. So there might be a very preliminary thing of, we are assuming that the presence of their mobile phones are ubiquitous today. But of course, there are going to be people who do not have mobile phones.

There might be shared access within a home, which means very often that the woman might have less access to it than the other person. There might be mixed patterns, because people are using the phone, multiple people are using the phone. Then there are questions about the research on which some of this relies, right. The kind of correlations that they are making. What world was that taken from?

And what happens if you do not fall into that for reasons that you cannot ahead of time predict, right? Then there are other questions about how far will you go? What kinds of data is it okay for you to pick up, right? So is it okay to say, well you spoke with a bunch of other people who might also have given you loans. And because they rejected you, I use that to say that I will not give you a loan?

Is that okay from a banking institution's point of view? So there are also two points of view we have to look at here, right. One is the business itself, right? And one is the person who is getting or not getting the loan, right? And part of what is, I think problematic about this, and you guys can jump in and see if you see anything else is that if my loan were to be rejected, in most of these cases, you do not know why, right.

So there is this particular issue of opacity. That I think, is much more accentuated today in the kind of data conversation that we are talking about, right? And what do I

mean by opacity? It is that very often, any of you made a call center call recently to anyone, airlines, bank, etc. Any frustrating experiences, any joyous experiences then?

Part of what I am trying to get at here is when you are talking to that person, or in this case maybe the FinTech company, if you ask why you have not been given a loan, you are basically told that your credit score is this in the best case scenario. Or you might not even get to know what that score is. But you do not know what led to that, right?

In almost none of these FinTech companies, can you actually say, this is why my score looks like this. Do I have a grievance redressal mechanism to all of that? And at the other end, the person who is sitting at the banking counter, genuinely says I do not know, the machine told me that. Is that an answer that people have got on call center calls or others where the person at the other end of the phone basically says I cannot do anything more, right?

The machine has told me this is how it works. And the underlying assumption there is either I cannot fix it, or if the machine said it, it must have had an internal logic to doing that, right. So that kind of a scenario, I think gets really problematic, because basically there might be a variety of reasons why your credit score looks the way it does. You might not have a phone.

There might be very structural reasons why your connections are only so many. Yeah. And this is actually a good case where you actually know right, why it happened, even if it was after a lot of pursuing. So a, you knew where to go to, you had a person that you could repeatedly go back to, and who chose to engage with you, for whatever reason. They were also willing to dig into it a little bit and tell you why it was.

Ultimately you could not change the final result. But you could at least know what happened, right? Now would you also know since you bring this up would do you know how they could challenge this? Like, for example, now that they know this, is there actually a forum where they can go and say, well this is why it does not work, right. So in some cases that might exist, but that is very few.

"Professor - student conversation starts" Yes. So they have data.gov.in is currently running a hackathon. They have a public grievance redressal system. And it is based on manual forms, which you fill up and give it to particular departments. And then they come up with the reason or whatever in a local language, which tells you why something was rejected.

Right now the hackathon is about converting the system into chatbots, right. And the problem with chatbots is why a certain thing is not applicable to me has very set definite reasons, just like you do in Uber. If you're canceling a ride, there are only four set reasons why you want to cancel it, right. And your case may not fit there.

And so that creates, when you are deciding, so someone who has done HCI here, we will be creating personas, set personas and set options for them to redo it. And that does not give them the flexibility of not fitting into your case. So that is the problem. **"Professor - student conversation ends"**. And remember also that very often, who is able to make some of these grievance redressal trips or later on maybe a legal case, is also very skewed structurally right.

Not everyone will have the time or the resources to actually carry forth a long term conversation like this about grievance redressal, right.

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So there are a lot more such companies today. And I think what makes them different and interesting and also problematic is the variety of sources from which they gather

the data. And they have very unique ways. In fact, very often that is their unique selling point is how they put those different sources together to come up with a score. But almost never will you know how they make that score.

Now this is not to say that earlier banks knew exactly how your credit score was getting calculated. But there were a couple of things that you knew. You knew that whatever they calculated was based on financial transactions, most probably because they would not have access to many other kinds of data.

In some countries it is also outside, it is illegal to use income or anything other than income or financial related data to generate credit scores that are used for other purposes other than for loans, right. But this makes it I think, unique.

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And the reason again, that I wanted to bring it up is where is the politics? And here again, by politics, I mean what are the kinds of structural reasons that people might be generating certain kinds of data? Who are the people from whom you ask permission for these kind of things? What are the kind of people who might be affected disproportionately by it?

Those are things that do not really come up when you are talking about how this data is used, right? In the video that you saw, obviously they were talking about how their company is doing well, so I do not expect her to bring it up.

But I think as a community also when you talk about how something is automated your faith in it, it is hard to explain there is a kind of an opacity because of which you are both not able to explain it but at the same time there is also some kind of a faith in that system, because it is supposed to be neutrally done, right.

The argument that you hear very often is that the person who is sitting giving you a bank loan in the bank can discriminate based on your gender or caste or class because they are in front of you. And they know you. And I am not denying that. But the point is, you can see that bias right there, right.

But when it goes through a system like this, the reason FinTech companies put it forward is precisely that this is just based on your data that we want. It has nothing to do with your caste, or class or gender, or any of the usual differentiators. And therefore we are less biased. And the point here is that there might still be all kinds of bias, except we are not able to see it.

So that in a way makes it even harder and more opaque to find biases around, right.
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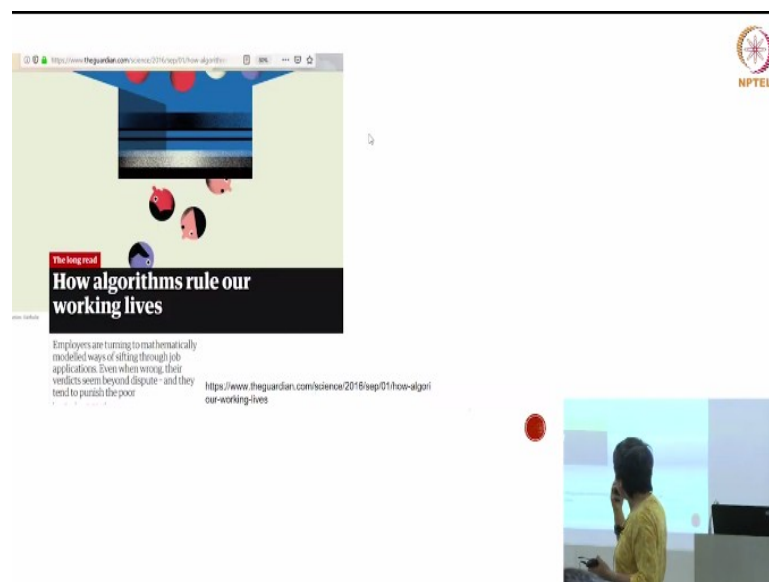
So I am going to just put out a lot of examples here, because I think each one of them is slightly different. So what we were looking at so far are different ways in which different kinds of data is aggregated.
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Here is another example, which is more predictive though, right? And this is for work. So there is a company called, I am forgetting the name, predict me, I think it is called. So ba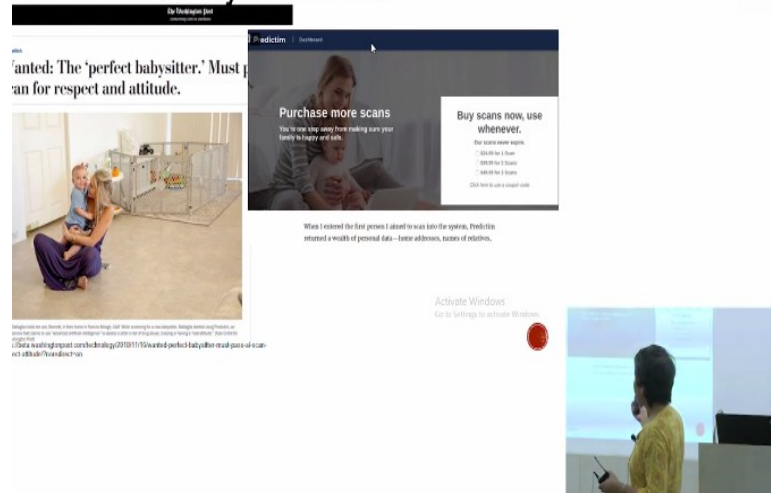sically babysitting services in the US. Again, the selling point here is that there has been a lot of child abuse. And you want to be sure that you trust the person you employ as a babysitter. So what might be ways in which you do this?

So they have come up with an app. I think it is yeah, Predictim is what it is called. So basically, if you want to employ a babysitter, what you do is you get them to, basically I think the way it works is you have this app, you put that person's name, the app goes ahead and then searches all their social media profiles. You get permission from the potential hire for this.

They search their social media profile for language, etc., to see and determine a score to say they will be good or bad babysitters, right? Now what is really interesting about this is the way this company started. So they actually started out by helping people who are looking for jobs, make a better social media profile for themselves.

As many of you might know increasingly, a lot of your potential employers are going to be looking at whatever trail you have left behind on the web, right, especially social media, to see what have been your kind of interactions. What language do you use? It is just, it spans a wide variety of behavior, right. So they were trying to initially help out people to say, well how do you keep yourself a clean profile?

Or how do you manage this such that tomorrow if your potential employer looks at this, you still get a job, right? What language should you not use, etc. But then they realize that where the market was, was probably on the other side. Now new parents, as everybody knows, are very hard to please, right. And they are very particular about how to ensure their child's safety.

So if you go further into like the sales pitch for this company, they completely draw on that fear, right? So even how this app progress is very interesting. So initially, when they built it, what they would do is they would get the employee, sorry the employer to be to send an email asking for permission from the person they wanted to hire, saying hey, can we look at your social media profile?

But then these employers told them that hey, it is very uncomfortable for me to write to someone telling them can I look at your social media profile? Because it seems it just feels like I do not trust the world kind of a thing. And it is a very uncomfortable interaction to have. So can we change that?

So basically, then what the company did was it started pinging the employee directly asking them that if they wanted to be vetted for this job, they need to share their social media profile, right.

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And there is a bunch of stuff that is come up, this is what it looks like. It gives you a low risk to high risk meter. And what they have also found is that given this is

babysitting, even if you were, you know near low risk, nobody wants that they want a perfect babysitter, right? So unless you make the absolute green, it is very unlikely that someone is going to give you a job. Now where are our problems here?

Clearly there is a purpose, which is that you want your baby to be safe. Which I do not think anyone is going to push back against. What is the problem with something like this? And there might be different kinds of problems, right? So they would argue that, look at some of the things on the list, right? It says drug abuse, explicit content, disrespectful attitude, bullying, and harassment.

Well if you clearly, if you are like you know Facebooking with your drug dealer maybe or with other buddies about where the you can get the next stash. So that is not entirely clear. But the idea is that if someone writes in a particular way, sounds like a bully, they are probably a bully. Now there is a small point here that is very important. Very often, the average age of the babysitters in the context we are talking about is probably like late teens, right?

Probably not the best time to judge you by your social media content, right. So on the one hand, you might have people whose language is being adversely interpreted to mean that they are threatening. On the other, and this is based off of your point, you might have a perfectly respectful attitude, whatever that means on social media would not tell you a whole lot about how you are going to be with the baby.

Now this gets further complicated by the fact that social media and this kind of language analysis, has very often, as I am sure all of you are aware, you need a data set on which to train it to say that something is respectful versus disrespectful. And this can bias it in further ways. For example, the way black Americans talk might be very different than the way other racial groups talk.

And it might not, it might just be slang, right? There is a very, for us, it is a very clear line between slang and being disrespectful. But for someone who is reading it without context, that is very hard to get. And this is something that technologists and computer scientists will tell you that interpreting this is very hard.

But the reason I bring this up is because again, here in an app, you are basically showing a certain degree of confidence in interpreting a person's personality based on some of their actions, right. And what they find is that people then get a little more hesitant. So even if you are low risk, but like two not one, people find it hard to hire you, right, because they feel like some unbiased party has told you that they might pose a certain amount of risk.

So who do you want to cross that and actually hire them. And this person who has written this article went ahead and did a lot of put in the names of all the people they know etc., to find out what their risks are. And there are very few people that they found who are very low risk. And again, there was certain racial component to it, etc.

Again, what makes this really interesting is because of the kind of conversations we have been having about bias, when this person goes and talks to the person who started this company, the first comment they make is that we do not do racial profiling, right. So your very starting point is that we are not biased against along these dimensions, that you might expect a human being to be biased around.

Therefore, we are actually going to be a much more neutral arbitrator in all of this. And yet there are these underlying factors, which means that the historical data sets that you draw from will likely influence the kind of interpretations that you make, right?

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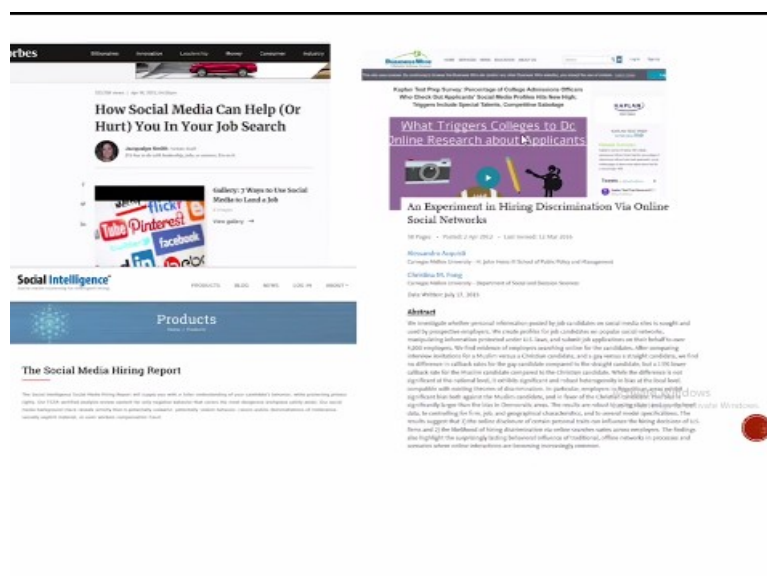
So anyway, there is a lot more around hiring. I thought you guys might all be looking for jobs. So here is something that you want to keep in mind whether or not you agree with it.

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So here is one more case. This is from a child abuse, prediction point of view. This is something that was deployed in Allegheny in northeastern US. A lot of the research unfortunately does come from the US, though there is some amount coming up in India as well. But I think the point that they are trying to make here is very interesting. So what happens here is this is basically a department called child.

Yeah CYF which is, okay, I do not actually have it, do not worry about it. Alright. So this is basically a child abuse hotline. So if you feel like a child is being abused, for whatever reason, you live in their lane, you see some suspicious activity, right, you can call a child abuse hotline. What happens at the hotline is there is basically an algorithm that pulls together a bunch of information about this child that you are calling about or the family that you are calling about, and gives a threat score.

Now this threat score basically tells the person who is taking up the call whether or not they should pursue this complaint, right. Because someone might have heard something that is one off, maybe it is not a big deal. There is no history saying this child is in danger. And you have a limited number of people that you can send out there to investigate, right. So given all these constraints, seems reasonable.

They even, this is not even a mandatory thing. So it is not that if the threat score is very high, you have to go out, or if it is very low, you are not allowed to go out. There is a human intermediary who has taken that call, who is using this to make a decision, right? Once again, what they find is, basically what the author does is she sits with this person, and she basically makes a calculative score independently.

And then it also runs on the computer. And even though the person is sort of sure before she sees the score, that this one is not worth bothering about, this one probably yes. Because the computer says otherwise, she gets a little jittery, right? So that point remains the same. Now what is the point with the, what is the sort of bias or skew in this data set that it uses?

So essentially, the score is calculated on a bunch of parameters that include things like how many times before has that family called into the child, here is where the name of the department would have been crucial, but I am forgetting it. So basically, this is a department that both looks at child abuse. It hosts that hotline, but also provide certain kinds of parental support services.

So for instance, you have to go out work. There is no one to look after your kid. This is a public department that gives you subsidized or free daycare, right? So this is also the same department. So if you call this department about things like that or needing any kind of help with your child support, that will actually feed into your score, right.

So with just this much, what do you think might be a problem with the way the score is generated? Or how might it look different for different kinds of people in that community? So who is likely to call up for subsidized daycare? Yeah, lower income, right. So you would not typically go to subsidized daycare unless you had no other means to make daycare happen, right?

So you can already see that a certain section of the population is likely to have called in more to this hotline. So anyways, on the one hand that is happening. On the other hand, what is also happening is that if you are able to avail of these services as well as maybe other kind of counseling services, right.

Which is the other thing that these guys are keeping tabs on is that domestic abuse, not necessarily of the child, but other separated parents. Is there a family tensions, have they been to public counselors, etc. On the other side, if you are actually able to afford going to private practitioners for this, your record is not on the system, right? So it actually works both ways.

So on the one hand, you are over sampling one population, merely because it has called you more often in other context, not necessarily abuse. On the other, you are under sampling people who might actually have higher threats for the child, but it is just that they have taken their problems elsewhere, right. So again, not to sort of belabor the point you see for certain opaqueness in what is happening, right?

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There it is. Child, youth and families. I was not too far off. Alright. Yes as apparently my next slide shows.

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DIGITAL POORHOUSE?

"Welfare required that poor people trade their rights—to bodily integrity, safe work environments, mobility, political participation, privacy, and self-determination—for meager aid for their families."

-Eubanks 2018

- Is privacy valued? How are its costs and benefits evaluated?
- How are trade-offs made? How much choice do people have?
- What are the consequences of data being collected, shared?
  - Shapes aid decisions
  - Avoidance of certain institutions, interactions with public service agencies
  - Relative right to privacy?
  - Ability to seek redressal in case of mistakes?

So the author of this Virginia Eubanks is basically making a larger point, which is that a couple of centuries back you had this idea of a poor house, and she is basically saying, are we creating a digital poorhouse? In some of these cases, in many of these cases, you are essentially dealing with people who need state welfare. And we are requiring that in order for them to get welfare, they trade off certain kinds of data, right?

So it might be informed consent in the sense that you are signing off on a piece of paper, but what choice do people really have? So she is basically saying that welfare required that poor people trade the rights to bodily integrity, safe work environments, mobility, political participation, privacy and self determination for meager aid for their families. So the questions for us to ask really are is privacy valued?

How are its costs and benefits evaluated? And for who? How are people making these trade offs? At the other end, what are the consequences of this data being collected, right. One we already discussed how useful is the score? How reliable is it? So there is that. But also imagine that you know this is what happens that the number of times you call actually affects whether or not some and there are consequences to someone from that department reporting at your place.

So for example, if someone comes a certain number of times, they can actually take the child away to foster care. So we are talking about a really high stake situation, right? So what might be something that people start doing once they know this is how

the score is calculated? It is fairly simple, right? We will stop calling that department for any kind of services.

You decide I will figure out other ways. Now is that something that you were really trying to do? If the whole point of this department is to help out people who might not always have alternative ways of supporting childcare, you are basically turning them away. This was definitely not what you intended to do with what you have set up. But that ends up being one of the consequences of it, right?

And once again, the redressal part is very complicated given how opaque it is. How are you going to go back? And I am talking about a general sense that people might get saying, hey, if these guys have showed up many times before at my house, it likely means they will show up again. But you do not necessarily know what the components of that are, right? So how will you challenge a decision like this?

And again, what kind of a route do you have to take to get to that, and who is able to do that? So those are all points that come up yet again.

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Now there is also some more stuff around predictive policing.

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Justice should be blind, right? Unfortunately, the predictive policing software used in much of the US has bias and misunderstanding programmed right into it, says data scientist Cathy O'Neil.
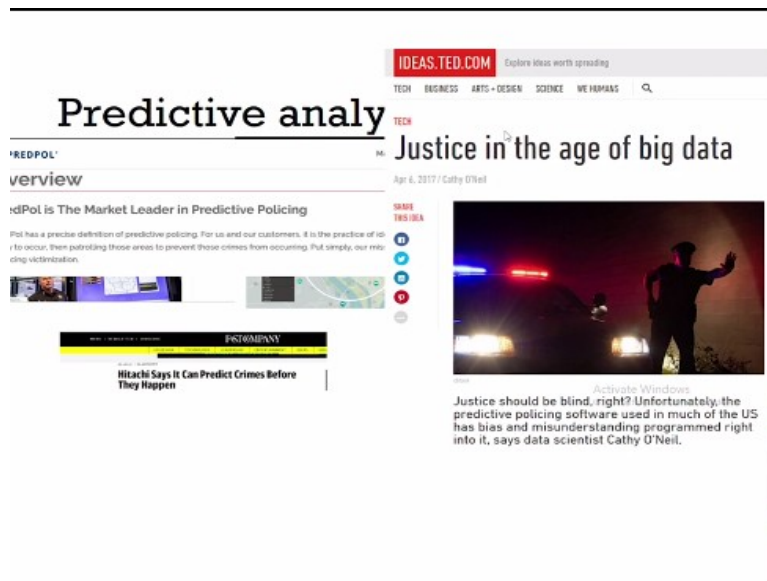
There is one in the US. There is also in India, there are a couple of face recognition systems that operate in the policing space. Anyone heard of either of these, there is one called FaceTagr in Chennai. Anyone know what it does? Yeah, so basically they use pictures of people to run it up against a database that they already have. I think the Chennai thing is still sort of in its trial stages, if I am not mistaken.

But there is a more fleshed out one that operates in Punjab, where I think they have over 100,000 photographs. And basically, they take a picture of someone they suspect, and they are able to run it against that. Now this is a complicated case, because on the one hand, the obvious problems are there for all of us to see, right.

You might say, it does not do good matching. It would not do good matching, especially for particular kinds of populations, etc. What happens with FaceTagr for example, and I think even the Punjab ones are planning to go further where they are going to look at how people gesture, etc., to also take that in. Because there are certain things that indicate that you are about to commit a crime.

I am not sure how it works. But there is that. There are proposals that they will tie it into Aadhar etc. So the problem with a lot of this is, very often this relies on people who look like suspects. So FaceTagr for example, says you can take a picture of someone who looks like a suspect. Now whether in India or the US context, the crime departments have typically had an idea of who looks more like a suspect than who else, right.

So once again, you just see a lot of space where those kinds of biases can creep in, right.

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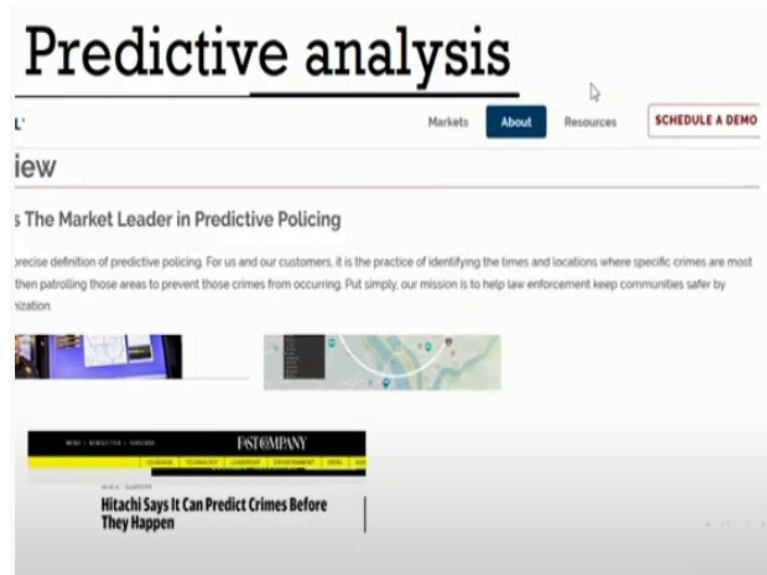
The previous case actually is interesting because FaceTagr is like very out there. This thing called PredPol is actually very interesting. So it does not actually work on people's faces. They work on geographies. So they have, they look at areas and see how much crime has been reported there. And they do more intensive patrolling there. So on the surface that actually looks pretty safe right, or at least safer than what I was talking about faces.

But what is, so this is from a book by Cathy O'Neil called Weapons of Math Destruction. So her argument here is that crimes again themselves are of different kinds, right? So you might have the burgling and manslaughter and things like that. But you also have much smaller things that are also classified as crimes. It might include buying a small quantity of drugs, for example, right.

Or there might be other more local definitions of crime. Now if you populate your the data that you are using for this includes both kinds, you basically mean, it basically means that you are patrolling areas regardless of whether it is crime type one or two. And her argument is that the more, if you keep patrolling an area, you are bound to find some crime or the other. It might not be burgling.

But you will notice things that would otherwise never have gotten reported. And again, this falls in line with the demographic of that, of that geography, because small amounts of drug peddling etc. Or if you end up, you know puncturing the car's wheels or any of those lower level misdemeanors might happen more in lower income areas, or historically that is what the data says, right.

So even something that is very unproblematic looking on the surface FaceTagr I think, just reading about it, you can think of some of the problems. But even something that is more geography based can have these sorts of things that are harder for you to think about, unless you actually know that space really well.

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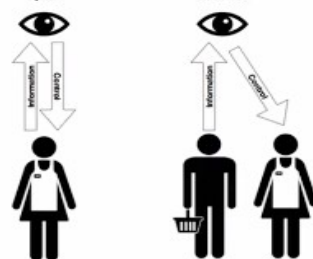
Figure 1. Dyadic versus refractive surveillance.

One last thing that I wanted to bring up just in terms of how data works. So most of the time, now we are talking about data being collected about someone and then that data is being used to monitor them. Now there is this idea of refractive surveillance, which basically means that you are actually collecting data about one population, but it is helping you monitor someone else.

And one example of that is something like a retail store. So in a retail store, they might be tracking you intensively as a customer for various things. Where are you, there are retail stores where they know what path you take, what you pick up, what you put down, this could be through CCTVs. They have other kinds of technologies, beacons, etc., also which helps with this.

Other things that you check online and offline, because you might have a login with the store, etc. But in many of these, the workers, the customer care agent that you meet, their data also can either be inferred, or actually also captured, right? If you have a CCTV capture of an interaction and or even if you are doing something like you are just looking at the customer's face and their satisfaction or whatever, is actually a reflection on the person that served them, right.

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urveilling the customer...

Figure 2. RetailNext and other vendors integrate multiple data sources for operational analysis (RetailNext, n.d.).

So this kind of data is increasingly also used to monitor the workers, not just the customers.

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.affecting the worker

Table 1. Mechanisms of Worker Control.

Consumer data	Managerial practice	Effect on worker
Traffic	Scheduling optimization	Instability + unpredictability
Customer in-store interactions + behaviors	Persistent + particularized evaluation	Control + greater capacity for differentiation between workers
Customer profile (clienteling information, customer identity, shopping history, preferences and attitudes)	Knowledge externalization + interaction standardization	Substitutability
Traffic + customer in-store interactions + customer profile + direct customer input	Automation (self-service)	Replacement

And that has certain kinds of consequences for them. And I think I am running a little out of time, so I would not go to this.

So to sort of bring some of this together, where should one look for the politics right, given that we have been talking about how one of the things that data seems to serve is to make the process and the politics more opaque. Where does one start looking for the politics, right? So how are problems identified?

The reason I brought up the nanny app was because the problem actually came from the fact that the company already had a technology in which it could mine social media writings, right. And from there and from the fact that there is actually a population that is very sensitive to who they hire it sort of puts it together, right?

And after that, whether you ask for consent from the person who you are hiring or the person who is doing the hiring, again becomes about who you see as your customer, right? And who is the other person who is basically serving your customer. How are these solutions designed and tested? When we talk about privacy and choice, which we all do increasingly, whose privacy and choice are we talking about?

Because any of these encounters includes multiple people. Who are you designing for, right? We talk also about collateral damage. So you say, well this technology is just developing, it is going to take some time. But what happens in the meanwhile, right? And how much of that are you willing to take? What data sets are used for training?

Cathy O'Neil has this beautiful phrase where she says data scientists are switching the status quo of the social order into models. She says this in the context of the PredPol application. What is being measured? How reliable are proxies? So for example, in the CYF case, you are basically measuring calls for support and working that into scores for how likely is child abuse. And the two are not always interlinked, right?

And the interesting thing here is also are you actually leading to a certain kind of situation? So it is not just that you are collecting certain people's data, providing your services only to certain sections, not to others etc. It is about how are you actually changing the terrain on which these everyday transactions are taking place?

So I already talked about the PredPol case where excessive patrolling means you actually find more crime because you might classify things that are otherwise unseen as crime. That then goes back into the data set, which then shows you that this area has more crime and you set more people on that patrol and so on and so forth.

Or in the CYF case, it might lead to people just avoiding the public department, which provides them certain kinds of subsidized services, which was not your initial goal anyway. And then finally, what I have been sort of harping on, the opacity of scores and the opportunity to contest such decisions. Do you even know that you have an opportunity to contest it. Or is a score just a given? That is just what will come out at the end of the process, right.

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Morality and politics

- Morality as politically mobilized by various institutions and persons (Mattingly and Throop 2018)
  - How does data help with this mobilization and in creating/reinforcing that morality?
- Everyday Morality and The Banality of Evil (Arendt 1963)
  - What do we (choose to) see and what remains unseen?
  - Where does data fit in this seeing/unseeing?

I just also wanted to tie this up quickly to what Bidisha was saying yesterday about the connection between morality and politics. And she made this connection in two ways, right. One was the very idea of what is moral is politically mobilized in some ways, right. And this data now feeding into this equation is the question that I am really asking, is the fact that you are using data in particular ways, actually making you see certain things as more moral than others.

The second point that she made was about how every day and banal what we are, in retrospect it is very easy to call certain things evil, right. But in the way that they get constituted, it happens in a very routine routinized, everyday sort of a way. Is that something that is happening and whether as designers or as users of the system, over time what happens is we tend to see certain things.

Remember what I was saying about the default user, right? Who you essentially think you are designing for? Other things are then you also design for those things in order to help you find a primary default user. So who are those people that you see? And who do you not see every time you see one person? And where does data fit into a new case.

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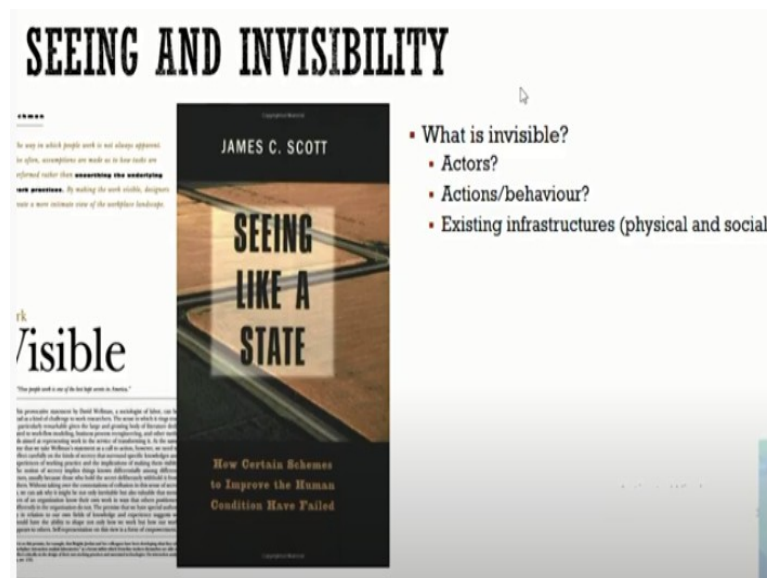
And this is also something I have been working on independently. But this is, there is this idea of when you think about invisibility, what kinds of people what kinds of actions and what kinds of existing infrastructures are you seeing or not seeing? So

around the PredPol case, one very interesting point that the author makes is the focus of policing has always been on low income populations, right.

And interestingly, she is someone who is a mathematician, she was working in Wall Street during the whole recession. So she talks about, I never see that kind of enthusiasm for going after white collar crime. So even your choice for what is this problem that you are choosing to solve, right? Which of those do you see and what do you not see? Why and for who these are questions you keep asking?

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CAN WE LEARN TO SEE WHAT IS INVISIBLE TO US?
(AND UNDERSTAND WHY IT WAS INVISIBLE IN THE FIRST PLACE?)

Can we learn to see what is invisible?

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NEXT STEPS

- Keeping track of who/what you're not seeing while framing a 'problem'
  - Actors (women? undocumented? landless?..)
  - Actions and behaviour (not directed only by efficiency, short-term economic gain...)
  - Value of existing objects/technologies
  - POWER STRUCTURES (and what might be conflicting interests?)
- How do you see better? (More time, research, participatory design, consultations..?)
- Remember your own social position
  - what does that tell you about your focus and assumptions, what you might be missing?
- Understanding the need for accountability/ regulation of data systems
  - Including Data. Model, application (Marda 2018)
- Technology audits

And of course, this is where we get more and more vague, because the good and bad part of the time we are in is that it is in some ways early days yet. So the hope is that some of these things can change. But it also means that we do not necessarily always have concrete examples of how they work differently. That said, there have been some things around the refractive surveillance thing I was talking about for instance.

One of the things that they do is looking at the number of customers that come in, that come in at any point to the store, they change their worker's schedules accordingly. And this makes worker's schedules very unpredictable. But in some stores, what they have done is they have allowed workers to jump in themselves and also work on which slots they want to use, right.

So there are small ways in which some of this can look different. But there are sort of broader, more abstract things that is worth keeping in mind, which is again about who do you see, not see. I think history has given us some indication of who are the people that are typically not seen. So at the very least are those groups that you are keeping in mind. Politics I think I have said enough about this.

Many people have worked on how do you see this better? I think Amit maybe spoke to you a little bit about participatory and inclusive design yesterday, consultations. In all of these cases that I have spoken about not in one, have any of the potential users ever been consulted, even at a baseline, right. So you are actually really designing for an imagined other. You have no direct interactions with them.

Very important also to remember who you are, right? Sometimes I think people get so taken by good intentions that you feel like if your intentions are good, you must be doing the right thing. Absolutely not the case. Anyone heard the proverb the path to hell is paved with good intentions. I think a very good thing to keep in mind, right? So who you are is always going to affect who you choose to see, who you are not able to see.

So at the least let us think about that. Think about who do we interact with on an everyday basis, who do we not, right. There has also been a lot of push for

accountability and for regulations to ensure that people are accountable. You can hold people liable in case of wrong decisions etc.

You guys are probably you are all aware of something like GDPR, where there is actually a specific clause, where you can ask for a human being to intervene in decision making if the decision making has been automated. So there is definitely a lot of effort that is going on. One thing that technologists are doing is asking for technology audits.

So very often many of these problems that I am pointing out, it has nothing to do with the fact that I am not building that technology. Technologists themselves also have lots of, they pointed out exactly similar issues around the trade off say between fairness and efficiency or fairness and accuracy. And I think you will hear more about this in the afternoon. So there is also that space to join in and carry out some conversation.

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Oath of Non-Harm for an Age of Big Data

I swear to fulfill, to the best of my ability, the following covenant:

I will respect all people for their integrity and wisdom, understanding that they are experts in their own lives, and will gladly share with them all the benefits of my knowledge.

I will use my skills and resources to create bridges for human potential, not barriers. I will create tools that remove obstacles between resources and the people who need them.

I will not use my technical knowledge to compound the disadvantage created by historic patterns of racism, classism, able-ism, sexism, homophobia, xenophobia, transphobia, religious intolerance, and other forms of oppression.

I will design with history in mind. To ignore a four-century-long pattern of punishing the poor is to be complicit in the "unintended" but terribly predictable consequences that arise when equity and good intentions are assumed as initial conditions.

I will integrate systems for the needs of people, not data. I will choose system integration as a mechanism to attain human needs, not to facilitate ubiquitous surveillance.

I will not collect data for data's sake, nor keep it just because I can.

When informed consent and design convenience come into conflict, informed consent will always prevail.

I will design no data-based system that overturns an established legal right of the poor.

I will remember that the technologies I design are not aimed at data points, probabilities, or patterns, but at human beings.

So I think with that I am right out of time. Again something that I am very fond of is this oath of non harm from Virginia Eubanks' book. And I think there are things that are very interesting here. All of it is interesting, but some of it, two of them are very interesting for me. The first which says I will respect all people for their integrity and wisdom, understanding that they are experts in their own lives, and will gladly share with them all the benefits of my knowledge, etc.

I will design with history in mind, to ignore a four-century long pattern of punishing the poor is to be complicit in the unintended but terribly predictable consequences that arise when equity and good intentions are assumed as initial conditions. So I would really like for all of you to keep this in mind. With that I will shut up and if there were any questions, we can take them now or over coffee. Whatever works.