MIT BDA Module 1 Unit 1 Video 1 Transcript

Speaker key

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AP: What is this Social Physics stuff? Well, the Social Physics stuff is statistics meets big data to understand people and it's a phrase that's about two centuries old. It's where our modern notion of census and, you know, countrywide statistics comes from, but now it's got a lot more detail than it ever had before and I want to tell you the story of where I got involved in it because it's sort of funny.

About 20 years ago I got interested in the fact that there were going to be computers everywhere and I created a race of cyborgs which you see here, so, people with little head-mounted displays and fanny packs full of batteries and ham radio to ask what would it be like if we had things like cell phones everywhere? And we were about, of course, 20 years too early, but some of the guys in this photograph, for instance, went on to create Google Glass and other things that are really cutting-edge technology.

One of the things we learned doing this, though, is that people will never wear stuff like this. So, I worked with fashion designers like Jean Paul Gaultier and Créapole, which is a design school in France, and we created what they called the Pentland Project which is designing what ubiquitous computing would look like in the future, and of course that's the world we live in today. We have iPads, we have Google Glass, we have wearable computers of various sorts, and it's interesting to see that this was in 1995 and that this research was sponsored by people like Motorola and Samsung. If you want to know where your world came from, it came from these French design students.

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So, when we built things like this what we discovered is something really interesting. There's the information that you get and you're very conscious of that, but more importantly there's data that comes off of you. So, from you iPad or your phone comes browsing data, what apps you're using and so forth. Who calls you of course is really important. You know, how tight are you with different people? How do you communicate with different people?

Probably most interesting is where you are, where you spend time, where you move next. Your physical location is the stuff that really indicates what you like to do and not just what you say you like to do. Along with that of course credit cards, and now going to be mobile money which is where you spend and what you buy is very interesting. Increasingly we have health data from Fitbits and implantables. So, we know even what's going on inside of you. And then a really important thing is from things like Bluetooth we know who else is around because they have Bluetooth on them too.

So, today's phones, today's wearables, give this really rich picture of your behavior and what you like to do. This is why they're scary in terms of privacy, which we'll talk about, but also why they're so rich; is they give enormous insight not just about how you live but how you work with others and where you work with others.

HY: Given the topic covered in this video, how would you describe the concept of digital breadcrumbs?

The concept refers to all the sources of data that a person creates and leaves behind while conducting everyday activities. These breadcrumbs or sources of data include things like location data, browsing habits, information from health apps, credit card transactions, and even what other people are around.

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AP: So, all of that together is what is Social Physics. And what this very rich data does is it lets us put together mathematical models of how people interact, what persuades us, what influences us to make decisions, and the surprising thing we find is that people aren't nearly as complicated as we like to make out. Actually a lot of our thinking is rooted in our biological heritage. So, mostly we learn from each other. We have signals about what we're interested in and what we're not interested in, things that are not language, not complicated, but things that you have to look at the social context in order to understand, and that's really the key message of Social Physics. It's not the individual; it's the social context. Pay attention to that and you can really understand what's going on.