Climate Change and Big Data

I had an interesting conversation with Sanjay Khanna recently. He is a journalist and futurist who is at the University of Toronto. He is writing a piece for the Washington Post on climate change.He found me through the Stern Public Affairs department. He was looking for someone to comment on gaming, climate change and big data. Sounded interesting, so I volunteered, although I wasn't sure what kind of "games" he was referring to. Since I was familiar with some work Roy Radner had been doing on a theoretical model of carbon emissions and whether there could exist a "self reinforcing treaty" that would provide the correct incentives for countries to reduce their green house gas emissions, I thought that maybe that was the type of game Sanjay was interested in.

Turns out that his interests overlap with a number of researchers in our Information Systems group at Stern. Sanjay was interested in using on-line gaming to develop awareness of an individual or family's energy usage and have them "compete" in some form to be "cleaner" than other members in their social network. We the talked about the "big data" implications of this and how one would have to have some type of "big data" infrastructure to hold all of the data. Apparently there is a Toronto startup developing an app for this right now.

The idea of using social networks to encourage good behavior is something that Sinan Aral in our group is doing right now. He is involved with a project in South Africa, using social networks to curb HIV.
NYU has a new center, CUSP, The "Center for Urban Science and Progress" headed by Steve Koonin, formerly Chief Scientist at BP, and Provost at Cal Poly. Steve has an appointment in our department at Stern, as well as at NYU Poly. One of the hopes of CUSP is to combine some of the many data sources in New York City with other information in ways that would make the city more efficient, safer, ...
Sanjay had recently appeared with Steve at a conference, and was already planning to visit NYC and CUSP. As we continued talking I pointed out how accurate the weather forecast for Hurricane Sandy had been and what might have happened if the weather models could have fed directly into the cities databases.

Sanjay and I both agreed that "big data" was a game changer for areas like climate change, and that there was a strong demand for this new breed of technologists called "data scientists". I then pointed out that another one of our researchers, Sonny Tambe, has been using data from Linked-In to look at where and how large that demand is. Sonny should be publishing some results shortly.

I described several initiatives at Stern and NYU in the area of data science and big data. Foster Provost and Josh Attenburg have just introduced a new course called "Practical Data Science" which is designed to provide a hands-on introduction ot the tools that a data scientist needs, including big data. I am teaching a new MBA course next Spring called "Dealing with Data", that will be focused on big data. An undergrad version is also being launched at the same time. Stern has had a small "big data" hadoop cluster for 2 years, and recently it came out of stealth mode and has active users. The computer science department has been given a much larger cluster by Yahoo, and Yann Lecun will be using it for a course next Spring.

I didn't have time to tell Sanjay about some of the other related activities Stern faculty are involved in, like Arun Sundarajan and MBA students involvement in the national identity project in India,Panos Ipeirotis work on crowdsourcing and Anindya Ghose's and Panos's work on mining textual social network data.

But the conversation did reinforce my feeling that our Information Systems group at Stern is involved in important areas both in teaching and research.

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Labels: big data climate change data science social networks