

Sensing, Understanding, and Shaping Social Behavior

Vivek K. Singh

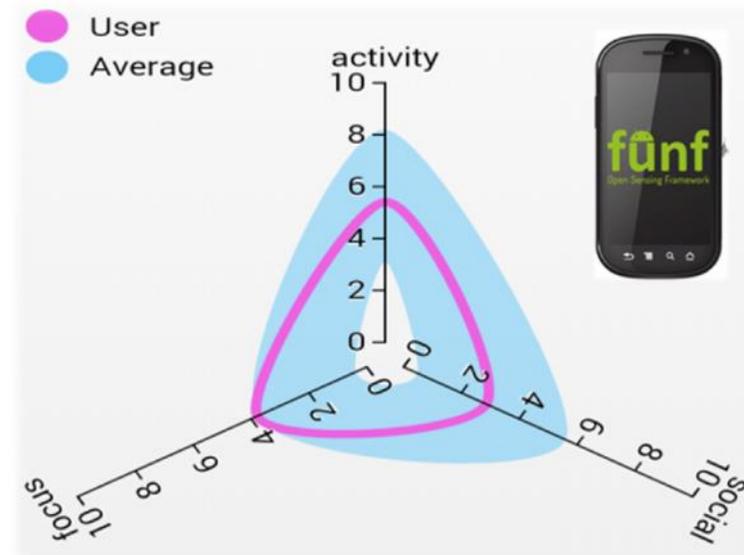
Post-Doctoral Associate, MIT Media Lab



**Massachusetts
Institute of
Technology**

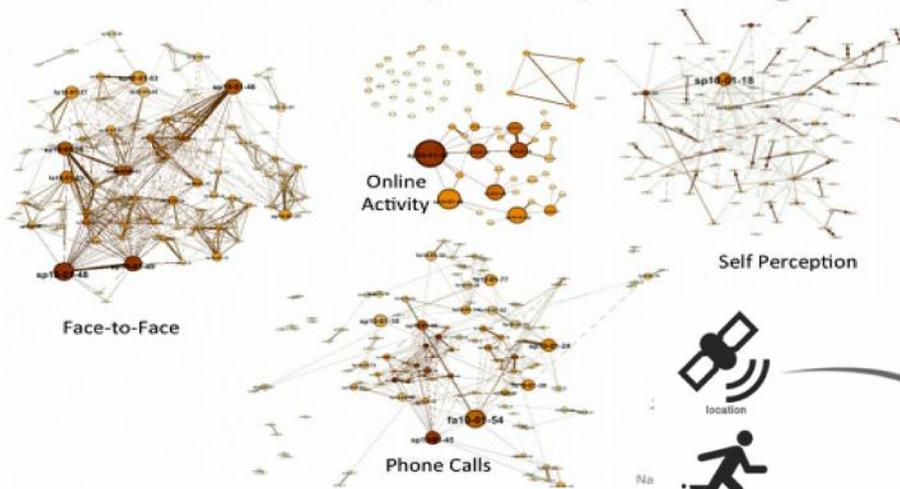
Sensing Human Behavior

- Quantified Self:
 - Bluetooth (face to face)
 - Accelerometer
 - GPS
- Surveys
- Emotions, heart-rate, social...



Understanding Social Behavior: **Social** **fMRI**

One Community, Many Networks



- Call logs, SMS logs, BT detections, accelerometer, surveys, etc.



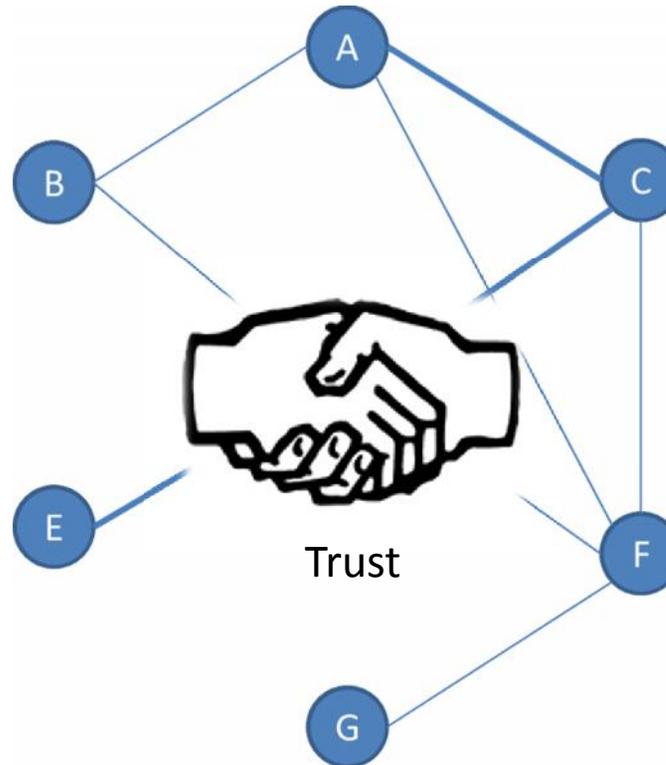
Data: 150 people for one year

Additional Data: Receipts/bank statements, Daily surveys

Using real-world social data to predict user behavior



Financial wellbeing



Happiness

Singh, Freeman, Lepri, Pentland, *Classifying Spending Behavior using Socio-Mobile Data*, IEEE SocialCom'13.

Singh, Krafft, Pentland, *On happiness and Socio-Mobile behavior*, ISQSS- SoS.

Shaping human behavior

Social Intervention is 3.5 times
as efficient as standard incentive mechanism



Condition	Activity Change from Period 1 to Period 3	Reward in Period 3	Reward Efficiency (Δ/S)
Overall			
Control	0.037	\$3.00	0.012
Exp 1	0.070	\$2.77	0.0253
Exp 2	0.126	\$3.04	0.0416

Standard
Incentive

View peer
performance

Peer reward
incentive

Triads with *trusted* ties showed significantly more behavior change compared to those with *close* ties.