

Mobile Data Unchained: Cross Domain Identity and Demographics Seen from the Apps in Your Pocket



Prof. Augustin Chaintreau

Columbia University

<http://www.cs.columbia.edu/~augustin/>

(joint works with Chris Riederer, Sebastien Zimmeck, Yunsung Kim, Coralie Phanord,
Nitish Korula, Silvio Lattanzi and Steven Bellovin)

Abstract:

Mobile online users are eager to use a plethora of ad-supported mobile apps, implicitly agreeing to disclose their locations to advertisers, third parties and governmental agencies. In contrast, location data privacy traditionally centers on conditions and mechanisms providing anonymity to individuals in a single domain. As we argue here, richer mobile data across domains bring new research opportunities but also motivate new tools to inform users on the disparate impact of location-enabled personalization. Two recent advances are used here as examples: (1) The first open and reproducible tool revealing mobility trends among ethnic groups, as seen in two metropolitan areas. Leveraging photo-sharing websites, we show how it can inform users with renewed details on the discriminative risk their location data entails. (2) A new algorithm type to reconcile a user's identity across generic and sparse mobile data sets. This principled method is robust and it outperforms previous heuristic rules even in its simplest variants. It also highlights the opportunities left open by a richer and unified picture of mobile users.

Biography

Augustin is an Assistant Professor of Computer Science at Columbia University since 2010, where he directs the Mobile Social Lab. He designs algorithms leveraging social mobile behaviors or incentives, to reconcile the risk and value of personal data networking. His research addressing transparency in personalization, fairness in personal data markets, efficiency in social information sharing, cross domain data linkage, and human mobility lead to 25 papers in tier-1 conferences (five receiving best or best student paper awards at ACM CoNEXT, SIGMETRICS, USENIX IMC, IEEE MASS, Algotel, some with large media coverage such as the NYT blog). An ex student of the Ecole Normale Supérieure in Paris, he earned a Ph.D in mathematics and computer science in 2006, the NSF CAREER Award in 2013 and the ACM SIGMETRICS Rising star award in 2013. He has been an active member of network and web research community, organizing the upcoming Data Transparency Lab Conference, serving in the program committees of ACM SIGMETRICS, SIGCOMM, WWW, CoNEXT (as chair), MobiCom, MobiHoc, IMC, WSDM, WWW, COSN, AAAI ICWSM, and IEEE Infocom, and as area editor for IEEE TMC, ACM SIGCOMM CCR, and ACM SIGMOBILE MC2R.