Case ID:M15-054P^

Published: 2/26/2020

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Exploring Personal Attributes from Publicly Available Interactions to Secure Users' Privacy

As social networking becomes more popular, sensitive personal information seems to become much more readily available on the web. Although some social networks have privacy settings the user can change, some user-created data is simply unchangeable, and thus, remains public. Websites inadvertently store information such as links clicked on, liked, favorited, etc. This scattered data serves as a clue to one's sensitive personal information such as sexual orientation, religious affiliation, political association, substance use, age, and gender. Some websites sell this information to companies for use in marketing, more specifically, for targeted advertisements. This creates a new market of information for advertising purposes and propagates a rise in consumer desire to decrease vulnerability to breaches in privacy.

Researchers at ASU have developed a method to mitigate the problem of social network interaction data by proposing SCOUT, a novel framework to predict users' personal attributes from website interactions. The algorithm works by classifying an attribute and giving each interaction a designation under a characteristic category. Then, the algorithm iteratively applies the learned attributes to unlabeled users, creating a matrix of frequented web interactions. In turn, this develops a profile for a user without the need of proprietary information. Using this knowledge, users may respond by changing their website activity to keep certain information private (i.e. "unliking" a certain post), and hence decrease their footprint on the web. A company, on the other hand, may use this information to promote their products to customers they see fit, making marketing more efficient. To summarize, SCOUT's novel ability to identify users through discrete user interactions such as "liking" a certain post can dually, aid users in increasing web privacy as well as help companies market their products more effectively and efficiently.

Potential Applications

- Personal Internet Security
- Social Networking
- Data storage/mining
- Targeted Marketing

Benefits and Advantages

- Identifiability – the technology makes it possible to distinguish the attributes of a person based on minimal data such as liking a post
- Efficient Marketing – companies can use the gathered information to better-target applicable advertisements based on user click history instead of shotgun marketing (targeting the largest population possible)

For more information about the inventor(s) and their research, please see:

[Pritam Gundecha's directory webpage](#)

[Dr. Huan Liu's directory webpage](#)