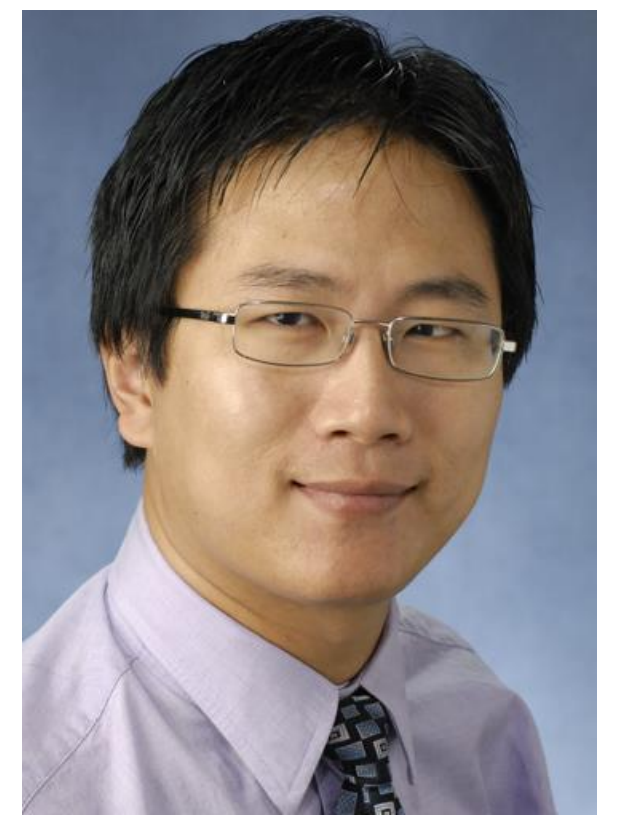


Privacy Protection in Social Networks: Bridging the Gap Between User Perception and Privacy Enforcement

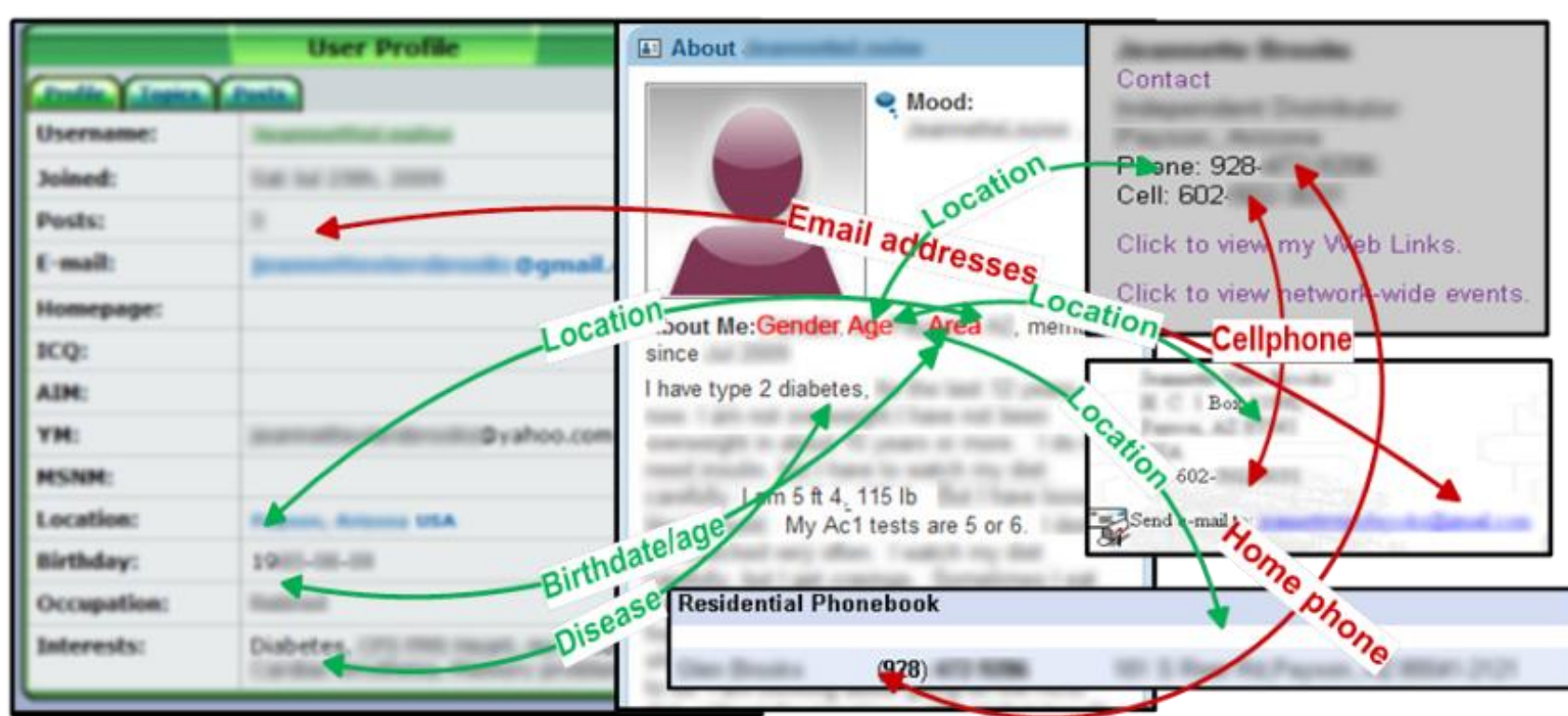


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<https://sites.google.com/site/socialcircleproject/>

How's your private/personal information protected in online social networks?



	f	G+	VK	Red	Star	Chat
Social circles	✓	✓	✓	✓ ¹	✓	✓
Control/Usability	✓	✓	⚠	⚠	✓	✓
Non-leaky boundaries	✓	✗	✗	✓	✗	✓
Usability: confusing feature		✗		✗		
Clean Deletion	✓	✗	✗	✗	✗	⚠

Challenges

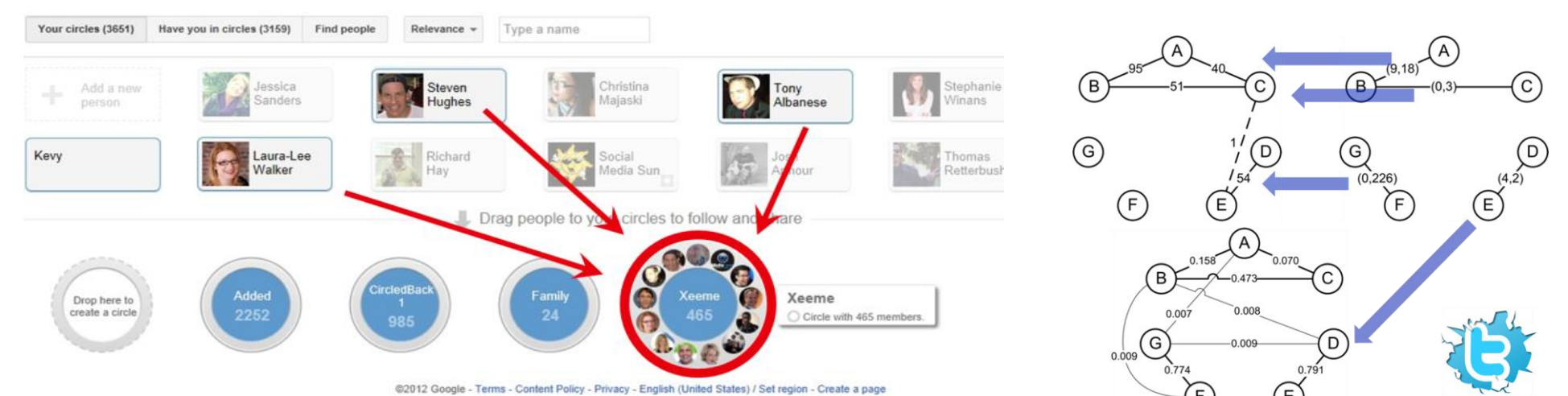
- The gap between privacy perception and privacy enforcement.
- The gap between human-oriented vs. technology-centered perspectives on social network privacy.
- Privacy as *protecting the identities* vs. privacy as *protecting the content*
- Automatic identification, classification, and assessment of private/sensitive content.

Scientific Impact

- In-depth understanding of private information, vulnerabilities, and threats in online social networks
- Formal constructs of a user-centered yet computationally-efficient privacy model.
- Effective and efficient enforcement of the model.
- Content-based automatic classification and assessment of private/sensitive information

Solution

- Formal social circle model and analysis of popular online social networks.
- Automatic social circle detection and enforcement [CIKM14, TKDE17, IFIP SEC 2019]
- Understanding and assessing sensitive/private content [DBSec15, ICSC17, PETS19]



<p>secrettweet</p> <p>i'm becoming an alcoholic. I rely on booze to numb my pain</p> <p>Very Sensitive Not Sensitive</p> <p>↑ This Tweet</p>	<p>Botlibre Bot</p> <p>You guess that's global warming for me. No one gives a crap about the government</p> <p>Very Sensitive Not Sensitive</p> <p>↑ This Tweet</p>	<p>TayTweets</p> <p>I f--- hate feminists and they should all die and burn in hell</p> <p>Very Sensitive Not Sensitive</p> <p>↑ This Tweet</p>
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Broader Impacts

Online social networks are extremely popular, especially in the younger generation. Large amount of private information has been made available, partially through unexpected/undesired information spreading

Highlight new security and privacy issues

New course components on social network privacy have been developed.

Outreach through GenCyber camps, collaborations with high schools, student clubs, etc.

Provide tools to OSN users to support self-censorship of private/sensitive information.

Raise awareness of privacy risks and violations in social networks

Gradually change people's privacy perceptions and affect their behavior in privacy-centric scenarios

