

A Privacy-preserving Meta-data Analysis Framework for Cyber Abuse Research – Foundations, Tools and Algorithms

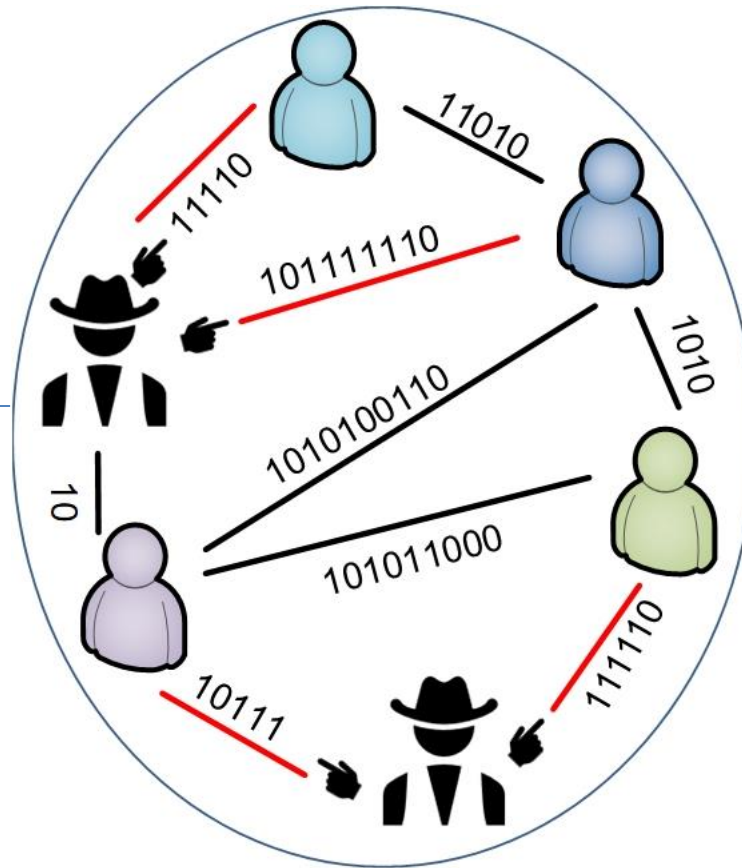


Challenge:

- Young people are highly vulnerable to abuse in cyber space today
- Existing techniques violate user privacy, and are also decoupled from understanding teen perceptions in cyber space

Solution:

- Design and deploy smartphone apps to solicit real-time feedback on abusive SMS communications from teenagers
- Process **meta-data** of SMS logs and user inputs using ML to detect patterns of abusive communications in cyber space



Scientific Impact:

- New insights on how teens perceive cyber privacy
- Quantifiable insights on how teens perceive and report cyber abuse, especially when privacy is preserved
- Novel features and ML algorithms that can operate on meta-data of cyber communications to detect abuse

Broader Impact:

- Proactive detection of cyber abuse
- ML techniques for other cyber space applications that sustain user privacy
- Deployment of novel platforms to collect privacy-preserving cyber data for social sciences research