

# Privacy Risks from Mining Online Social Networks

Alessandro Acquisti and Ralph Gross\*  
Heinz School and School of Computer Science  
Carnegie Mellon University

September 2007

Our research focuses on the privacy risks associated with information sharing in online social networks and seeks to propose efficient mitigation strategies that may enhance privacy while preserving valuable online interactions.

Online social networks such as Friendster, MySpace, or the Facebook have experienced exponential growth in membership in recent years. They are no longer niche phenomena: millions use them for communicating, networking, or dating. These networks are successful examples of computer-mediated social interaction. However, they also raise novel privacy concerns, which our research aims at quantifying.

Specifically, we evaluate the risks that information publicly provided on a social networking site may be used to gather additional and potentially more sensitive data about an individual, exploiting the online profile into a 'breeding' document. For instance, we consider ways in which knowledge of an individual's personal information (PI) can lead to the estimation of his personal identifying information (PII); and ways in which identified or identifiable data can lead to the re-identification of otherwise pseudonymous data.

---

\*Research support from the National Science Foundation and from Carnegie Mellon CyLab and Berkman Fund is gratefully acknowledged. Email contact: [acquisti@andrew.cmu.edu](mailto:acquisti@andrew.cmu.edu).