Cybercasing the Joint: On the Privacy Implications of Multimedia Retrieval

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Abstract

In this talk, I present recent case studies that highlight the potential for multimedia retrieval of online (social network) data to support real-world attacks. Multimedia Retrieval, i.e., the task of matching and comparing multimedia content across databases, has rapidly emerged as a field with highly useful applications in many different domains. Researchers from different areas in signal processing and computer science (including the presenter) have invested significant effort into the development of convenient and efficient retrieval mechanisms. While retrieval speed, flexibility, and accuracy are still research problems, this talk will demonstrate that they are not the only ones.

This talk aims to raise awareness for a rapidly emerging privacy threat that we termed "cybercasing": leveraging information available online to mount real-world attacks. Based on the initial example of geo-tagging, I will show that while users typically realize that sharing information, e.g., on social networks, has some implications for their privacy, many users 1) are unaware of the full scope of the threat they face when doing so, and 2) often do not even realize when they publish such information.

This talk presents a set of scenarios demonstrating how easy it is to correlate data [1,2,3,4] with corresponding publicly available information for compromising a victim’s privacy.

Biography

Dr. Gerald Friedland is a senior research scientist at the International Computer Science Institute, a private research lab affiliated with the University of California, Berkeley, where he leads a multimedia group, mostly focusing on acoustic techniques such as speaker diarization and acoustic event detection. He is currently PI on an IARPA-funded project on video concept detection, a PI on a DARPA project on multimodal grounded learning for robots, a PI on an NSF project on the human accuracy of location estimation, a PI on an industry-funded project on video duplicate detection using acoustic methods, and co-PI on an NSF project on the privacy implications of global inference.

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