**Privacy-Preserving Social Media Data Publishing for Personalized Ranking-Based Recommendation**

**Abstract:**

Personalized recommendation is crucial to help users ﬁnd pertinent information. It often relies on a large collection of user data, in particular users’ online activity (e.g., tagging/rating/checking-in) on social media, to mine user preference. However, releasing such user activity data makes users vulnerable to inference attacks, as private data (e.g., gender) can often be inferred from the users’ activity data. In this paper, we proposed PrivRank, a customizable and continuous privacy-preserving social media data publishing framework protecting users against inference attacks while enabling personalized ranking-based recommendations. Its key idea is to continuously obfuscate user activity data such that the privacy leakage of user-speciﬁed private data is minimized under a given data distortion budget, which bounds the ranking loss incurred from the data obfuscation process in order to preserve the utility of the data for enabling recommendations. An empirical evaluation on both synthetic and real-world datasets shows that our framework can efﬁciently provide effective and continuous protection of user-speciﬁed private data, while still preserving the utility of the obfuscated data for personalized ranking-based recommendation. Compared to state-of-the-art approaches, PrivRank achieves both a better privacy protection and a higher utility in all the ranking-based recommendation use cases we tested.

**SYSTEM REQUIREMENTS:**

**HARDWARE REQUIREMENTS:**

* System : Pentium Dual Core.
* Hard Disk : 120 GB.
* Monitor : 15’’ LED
* Input Devices : Keyboard, Mouse
* Ram : 1 GB

**SOFTWARE REQUIREMENTS:**

* Operating system : Windows XP/UBUNTU.
* Implementation : NS2
* NS2 Version : 2.28
* Front End : OTCL (Object Oriented Tool Command  Language)
* Tool : Cygwin (To simulate in Windows OS)