

# Sharing Information with Differential Privacy: A Database Perspective (VLDB 2024 Keynote)

Xiaokui Xiao  
National University of Singapore  
xkxiao@nus.edu.sg

## ABSTRACT

In the digital age, the widespread collection and analysis of data pose significant privacy challenges. Differential privacy (DP) has emerged as a leading framework for ensuring that information release does not compromise individual privacy. In this talk, we will delve into the theoretical and practical aspects of achieving DP from a database perspective. We will start by examining database reconstruction attacks and their implications. We will then explore the design of DP query processing techniques, as well as the generation of synthetic databases under DP. Finally, we will discuss future directions for research in DP data management.

## PVLDB Reference Format:

Xiaokui Xiao. Sharing Information with Differential Privacy: A Database Perspective. PVLDB, 17(12): 4555-4555, 2024.  
doi:10.14778/3685800.3685917

## SPEAKER BIOGRAPHY

### Xiaokui Xiao

**Xiaokui Xiao** is a professor at the School of Computing, National University of Singapore. His research focuses on data management and analytics, especially on data privacy and algorithms for large data. He is a co-recipient of the VLDB 2021 Best Research Paper Award, the 2022 ACM SIGMOD Research Highlight Award, and the 2024 ACM SIGMOD Test-of-Time Award. He is an IEEE fellow, an ACM distinguished member, and a trustee of the VLDB Endowment.

This work is licensed under the Creative Commons BY-NC-ND 4.0 International License. Visit <https://creativecommons.org/licenses/by-nc-nd/4.0/> to view a copy of this license. For any use beyond those covered by this license, obtain permission by emailing [info@vldb.org](mailto:info@vldb.org). Copyright is held by the owner/author(s). Publication rights licensed to the VLDB Endowment.  
Proceedings of the VLDB Endowment, Vol. 17, No. 12 ISSN 2150-8097.  
doi:10.14778/3685800.3685917