PRIVACY PRESERVING DATA PUBLISHING

Course Code: 15CS2212

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Pre requisites: Probability Mathematics, Design and Analysis of Algorithms.

Course Outcomes: By the end of the course students will

CO1: Apply anonymization methods for sensitive data protection.
CO2: Apply state-of art techniques for data privacy protection.
CO3: Design privacy preserving algorithms for real-world applications.
CO4: Identify security and privacy issues in OLAP systems.
CO5: Apply information metrics for Maximizing the preservation of information in the anonymization process.

UNIT I (10-Lectures)

Privacy issues (Chapter 1 from reference book 1), privacy models (Chapter 2 from Reference Book 1)

UNIT II (10-Lectures)

Anonymization operations: and Information metrics (Chapter 3 and 4 from reference book 1)

UNIT III (10-Lectures)

Anonymization methods for the transaction data, trajectory data, social networks data, and textual data. (chapter 13, 14, 15 and 16 from Reference Book 1)

UNIT IV (10-Lectures)

Collaborative Anonymization (Chapter 11 and 12), Access control of outsourced data, Use of Fragmentation and Encryption to Protect Data Privacy; Security and Privacy in OLAP systems. (from research papers)

UNIT V (10-Lectures)

Extended Data publishing Scenarios (Chapter 8 to 10), Anonymization for Data Mining (chapter 6 to 7 from reference book 1)

TEXT BOOKS:

1. Benjamin C.M. Fung, Ke Wang, Ada Wai-Chee Fu and Philip S. Yu, Introduction to Privacy-Preserving Data Publishing: Concepts and Techniques, 1st Edition, Chapman & Hall/CRC, 2010.
2. Charu C. Aggarwal, Privacy-Preserving Data Mining: Models and Algorithms, 1st Edition, Springer, 2008.

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