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Privacy-Preserving Data Mining Techniques for Protecting Sensitive Information in Modern Data Analytics

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Abstract: *With the increasing collection and analysis of personal and sensitive data, privacy concerns have become a major challenge in data mining. Privacy-Preserving Data Mining aims to extract useful patterns while ensuring that sensitive information is protected. This review explores current PPDM techniques, including data anonymization, perturbation, cryptographic methods, and differential privacy, highlighting their advantages, limitations, and applications. A comparative table, formula illustrations, and a sample graph are included to facilitate understanding.*

Keywords*:* Anonymization, Perturbation, Encryption, Obfuscation Differential