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Practical Multi-Keyword Ranked Search With Access Control Over Encrypted Cloud Data

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Abstract: *With the explosive growth of data volume in the cloud computing environment, data owners are increasingly inclined to store their data on the cloud. Although data outsourcing reduces computation and storage costs for them, it inevitably brings new security and privacy concerns, as the data owners lose direct control of sensitive data. Meanwhile, most of the existing ranked keyword search schemes mainly focus on enriching search efficiency or functionality, but lack of providing efficient access control and formal security analysis simultaneously. To address these limitations, In this Project propose an efficient and privacy-preserving Multi-keyword Ranked Search scheme with Fine-grained access control (MRSF). MRSF can realize highly accurate ciphertext retrieval by combining coordinate matching with Term Frequency-Inverse Document Frequency (TF-IDF) and improving the secure k NN method. Besides, it can effectively refine users' search privileges by utilizing the polynomial-based access strategy.*

Keywords: Ranked Search, Document Frequency, Data owners, Cipher-text ,Encrypted Search, Cloud Computing, Access Control, Multi-Keyword Search, Ranked Search, Secure Indexing, Attribute-Based Encryption (ABE), Privacy Preservation, Trapdoor Generation, Searchable Encryption

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