

Privacy-conscious Approach on SQL Query using bb-PIR

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Abstract

Privacy information retrieval (PIR) can be viewed as a service between a user and a database. Private retrieval of public data is critical in these days when a client wants to query a public data service without expressing the query to the server. The user wants to retrieve some item from the database without knowing which item is retrieved. Most current PIR protocols are not appropriate to provide user privacy from a large database. This is because of their computational complexity that is linear in the size of the database. And the database still learns which item is being retrieved by the user. Therefore, this paper uses a practical and flexible approach for the private retrieval of public data called bounding box private information retrieval (bb-PIR). In other words, this paper shows how to retrieve data from a relational database with bb-PIR by hiding sensitive constants contained in the SQL query.