

## **ABSTRACT**

As the ability to store large data increased, the time required to process/perform action on the stored data increased and hence more techniques were developed to improve the performance (there by reducing the processing time). Set-Membership problem is no exception, and many probabilistic algorithms were developed/proposed to solve this problem in less time (almost in constant time).

Redis is the database application which provides the ability to store large data (more than 4 billion entries (4GB)) in-memory and uses Bloom filter to tackle set-membership problem. But Cuckoo filter is practically proved to be better than Bloom filter (in terms of performance) and hence this project is aimed at improving the performance of set membership operations by replacing Bloom filter with implementation of Cuckoo filter.