Bibliometric Analysis of Symmetric Encryption

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Abstract— In toady world If we talk about Internet of things (IoT), then it became main part of any individual life. It connects people with physical world, so the research in this area is very active and important. For good research any body needs previous analysis and Symmetric Encryption is one of the parts of Internet of Things and its analysis is very important in this type of research. In this paper, I deal with the "Bibliometric Analysis of a searchable Symmetric encryption" scheme. In this I add the data of year 2015-2021.

Keywords: Internet of Things, Cloud Computing, Cloud Storage, Searchable Symmetric Encryption

I. Introduction

SSE (searchable symmetric encryption) allows a client to encrypt data while still allowing it to be searched. SSE's most immediate application is cloud storage, where it allows a client to securely outsource their data to an untrustworthy cloud provider without surrendering their ability to search through it.

Alice can send a message to Bob using an encryption strategy that prevents Eve from gaining significant information about the message content. This is the classic cryptography problem. It's commonly thought of in one of two ways. The symmetrical (private-key).

Encryption and decryption are carried out via a shared key between the sender and receiver.

In an asymmetric (public-key) setup, the sender has some public information and the recipient has some private information.

II. Data Import or Load files

Description	Results
MAIN INFORMATION ABOUT DATA	
Timespan	2015:2021
Sources (Journals, Books, etc)	1
Documents	347
Average years from publication	1.73
Average citations per documents	14.85
Average citations per year per doc	4.774
References	11417
DOCUMENT TYPES	
article	347
DOCUMENT CONTENTS	
Keywords Plus (ID)	1
Author's Keywords (DE)	1
AUTHORS	
Authors	1123
Author Appearances	1518
Authors of single-authored documents	7
Authors of multi-authored documents	1116
AUTHORS COLLABORATION	
Single-authored documents	10
Documents per Author	0.309
Authors per Document	3.24
Co-Authors per Documents	4.37
Collaboration Index	3.31

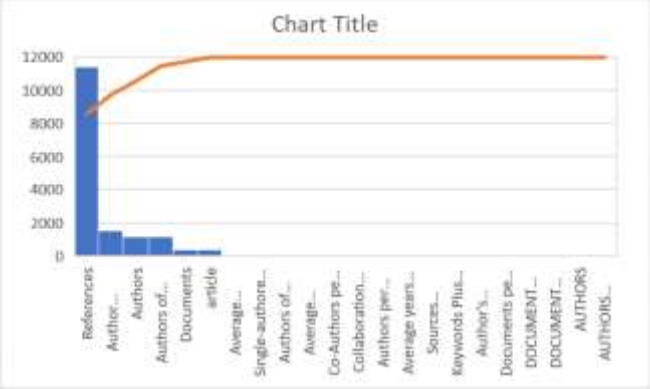

Fig. 1: A Pareto chart plots the distribution of data in descending order of frequency, with a cumulative line on a secondary axis as a percentage of the total.

III. Years and No. of Articles

Year	Articles
2015	1
2016	11
2017	20
2018	60
2019	84
2020	113
2021	58

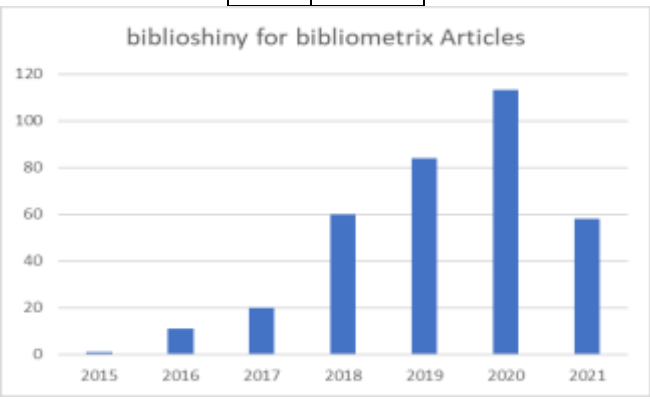

Fig. 1: A clustered column chart is used to compare values across a few categories. Use it when the order of categories is not important.

IV. MOST RELEVANT SOURCES

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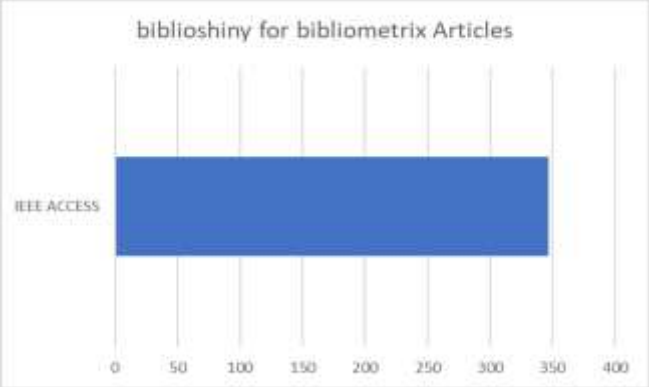
Sources	Articles
IEEE ACCESS	347



V. AUTHORS, ARTICLES & ARTICLES FRACTIONALIZED

Authors	Articles	Articles Fractionalized
ZHANG Y	19	5.05
ZHANG L	9	2.73
LI C	8	1.53
WANG J	8	2.01
WANG S	8	2.37
WANG Y	8	1.72
LI X	7	1.55
LIU X	7	1.54
WANG X	7	2.03
ZHANG J	7	1.53
LI J	6	1.54
LI Y	6	1.96
LIU J	6	1.43
WANG H	6	2.1
CHEN X	5	0.93
KHAN S	5	0.82
LU R	5	1.18
SALAH K	5	0.81

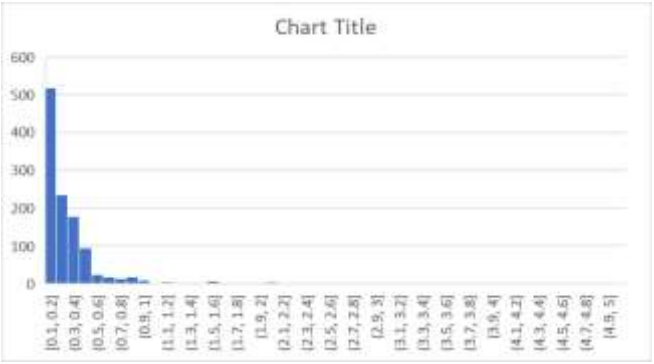


Fig. 4: A histogram shows the frequency of occurrence of values within a data set. Ranges of values are grouped into bins.

VI. AFFILIATIONS AND ARTICLES

Affiliations	Articles
XIDIAN UNIVERSITY	21
KING SAUD UNIVERSITY	12
HUNAN UNIVERSITY	11
NANJING UNIVERSITY OF POSTS AND TELECOMMUNICATIONS	8
UNIVERSITY OF ELECTRONIC SCIENCE AND TECHNOLOGY OF CHINA	8
NATIONAL UNIVERSITY OF DEFENSE TECHNOLOGY	7
COMSATS UNIVERSITY ISLAMABAD	6
FUJIAN NORMAL UNIVERSITY	6
INSTITUTE OF INFORMATION ENGINEERING	6
KHALIFA UNIVERSITY OF SCIENCE AND TECHNOLOGY	6
XI'AN UNIVERSITY OF POSTS AND TELECOMMUNICATIONS	6
BEIJING JIAOTONG UNIVERSITY	5
BEIJING UNIVERSITY OF POSTS AND TELECOMMUNICATIONS	5
HANYANG UNIVERSITY	5
NANYANG TECHNOLOGICAL UNIVERSITY	5
NATIONAL TAIWAN UNIVERSITY	5
QINGDAO UNIVERSITY	5
QUFU NORMAL UNIVERSITY	5

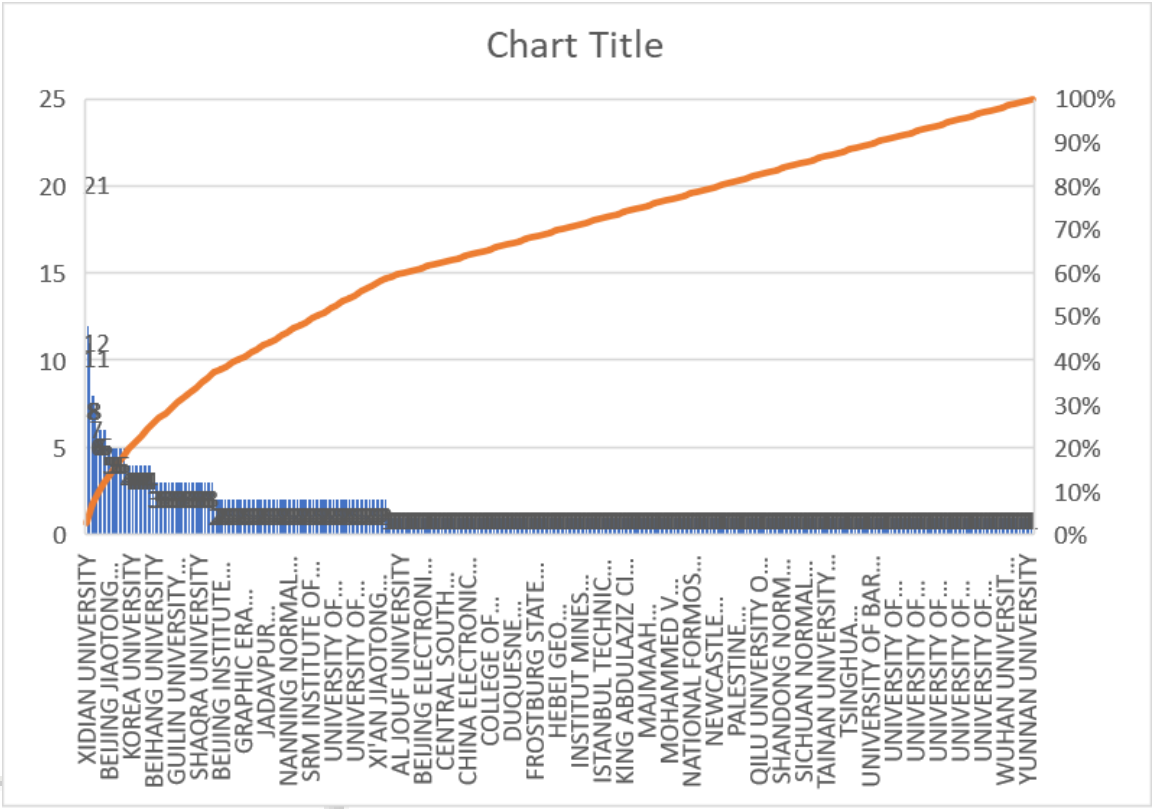


Fig. 5: A Pareto chart plots the distribution of the data in descending order of frequency, with a cumulative line on a secondary axis as a percentage of the total.

VII. NODE, CLUSTER, BETWEENNESS, CLOSENESS, PAGERANK

Node	Cluster	Betweenness	Closeness	PageRank
goyal v 418	1	199.3872317	0.011494253	0.025739958
sahai a 2005	1	98.07937151	0.010989011	0.025642593
bethencourt j 2007	1	104.3874773	0.010989011	0.024438757
li j 2017-1	1	62.15587314	0.010204082	0.022598277
waters b 2011	1	34.38801767	0.01	0.023220347
li m 2012	1	22.28130403	0.009259259	0.022517528
lewko a 2011	1	0.387495218	0.008	0.020278721
zhang y 2018	1	4.623194295	0.008695652	0.020068621
shamir a 1979	1	4.584782615	0.008196721	0.019183453
boneh d 2001	1	7.346541076	0.008849558	0.020497182
chase m 2007	1	0.965661366	0.008130081	0.020899328
azaria a 2016	1	0	0.007936508	0.018050195
chase m 3678	1	2.476154847	0.008264463	0.02184744
cheung l 5302	1	0.127177305	0.007874016	0.019800247
yu s 2174	1	18.01434963	0.009615385	0.019752969
bonomi f 2513	1	0	0.003236246	0.017164938
lewko a 2010	1	60.47767043	0.010416667	0.020232869
dolev d 1983	1	0	0.002816901	0.017520849

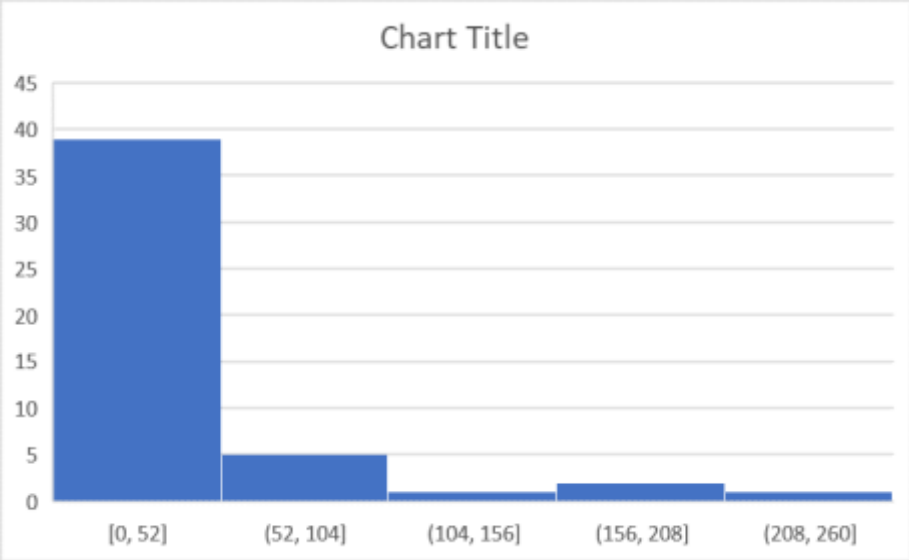
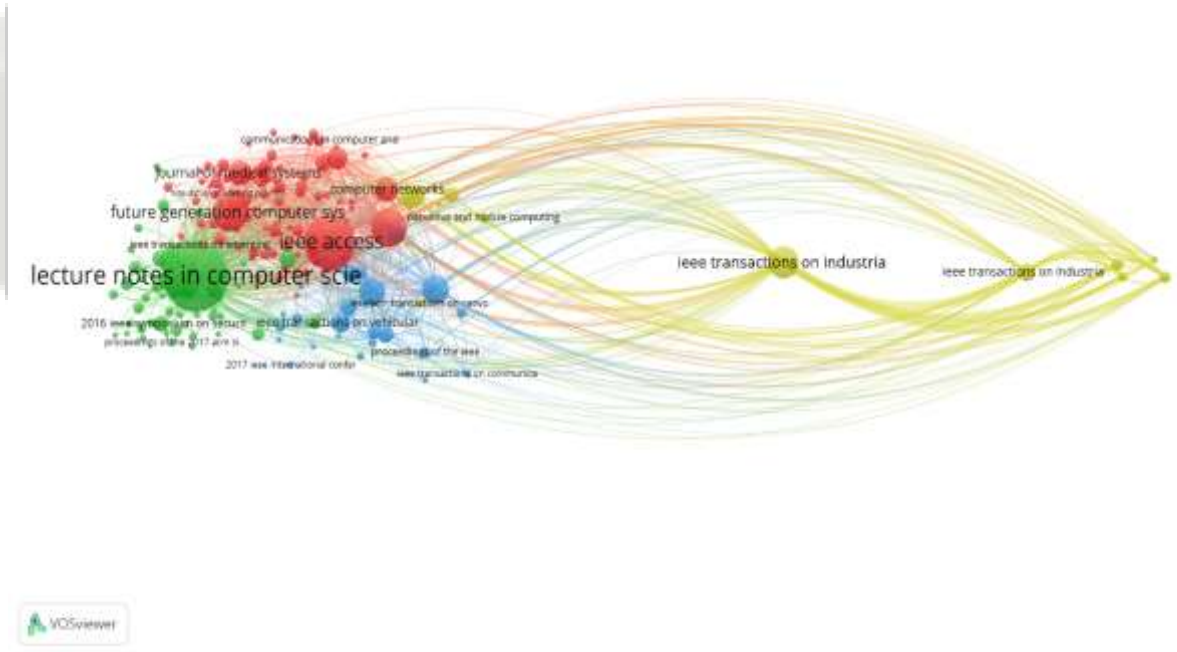
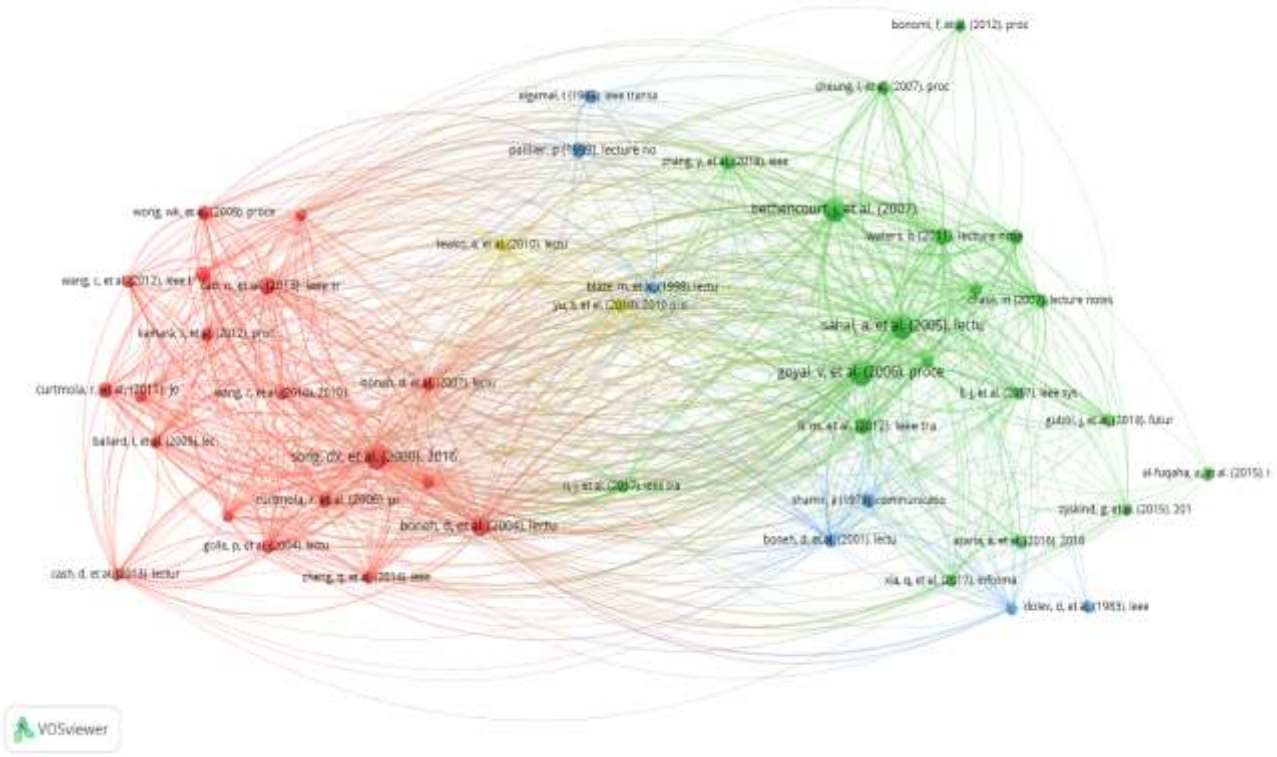


Fig. 6: A histogram shows the frequency of occurrence of values within a dataset. Ranges of values are grouped into bins.

A. Network Visualization of Co-Citation Source



B. Network Visualization of Co-Citation



VIII. CONCLUSION:

In this paper, we have proposed a bibliometric Analysis of searchable Symmetric encryption. In this I give all the information of data from 2015 to 2021 after that on the basis of acquired data I show its graphical form. This analysis shows that the how the research work going on IoT and cloud computing relate topic, and also help in future research work in these topics.

REFERENCE:

[1] https://app.dimensions.ai/exports
[2] C:\Users\manmohan\Downloads\Dimensions-Publication-2021-12-29_18-41-19.csv
[3] C:\Users\manmohan\Downloads\Export file
[4] C:\Users\manmohan\Downloads\VOSviewer_1.6.17_exe

