STUDY OF DARK WEB ANONYMITY USING MODERN TECHNOLOGIES

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Abstract

Nowadays criminal groups and hackers are using internet for the purpose of utilising recruitment, communicating with globalized people, then linking with terrorism mofias. They spread unnecessary materials like dark web links which leads for violence and terrorism. These groups are called anonymous groups and also they are involving to connect illegal activities which are treated as violence. They are playing different roles in this type of anonymous websites. So, in website identification of anonymous person's crawling is very hard to the researchers. These groups are still active and spreading their illegal activities throughout the countries. By using some modern technologies and implementing mechanisms are very useful for earlier findings of these Online Crawlers. This paper is very useful to know about Dark Web and Block Chain Technology.

Keywords: Anonymity, Blockchain, Dark Web, I2P,Privacy, Radicalism, TOR.

I INTRODUCTION

Nowadays many terrorist groups and anonymous persons from Dark Web involving in online crimes. They request money from their direct supporters for doing online crimes like illegal child pornography, financial frauds, Hackings, purchase or sales of drugs etc [1]. They received bitcoins to do this online activity. Because bitcoins are very secured way for online untraceable payment method. This leads to increase the number of anonymous person who are using Dark Web. The main aim of this article is to create

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awareness about Dark Web to the people.

Mostly linking of Cyber-threat assets with text features are used by threat-actors in multiple Dark-net collections .Threat landscape means online working space where anonymous persons are doing illegal threat activity. On the basis of these Threat landscape mostly proactive or reactive security measures will be implemented. By using of these security measures, the ecosystem of Dark web data collections can be identified easily [2].

Deep Web is the second part in Internet. In this web technical terms mostly differed from surface web. Due to this reason search engines are not indexing about this site. Standard web browsers are not able to access the information of Virtual Private networks because these informations are hidden intentionally[3].

To enable the anonymous communication purpose the TOR project was introduced in the year 2002 by the laboratory named as US Naval Research Laboratory. Dark web contents are accessed by the TOR. Another network named as Invisibible Internet Project (I2P) is also used by the web browsers for anonymous communication. This network is providing networked networks with very strong and reliability [4].

II DARK WEB

In Dark Website, the user's identification is less because of this reason the illegal activities are increased among the traffic segment in Internet. In the result of anonymous and decentralization of nodes from certain networks like TOR or I2P Dark web can be achieved. This type of network connections is managed by TOR software [5].

The main task of TOR is to create the "relays". Relays are carrying the information through virtual tunnels. These tunnels are used for distributing the personal data about people and such organizations as well as privacy is not compromised by them.TOR enables users into their traffic through this traffic TOR conceals the identity of the particular people or organization and those type of encrypted informations are kept between these relays[6].

HACKERS INVOLVED IN DARK WEB MINING

Sometimes well educated people are having wrong intentions. They are known as Hackers. Different People are having different intensions. White Hat, Green Hat, Blue Hat, Red hat, Gray Hat, Black Hat, Script Kiddies, Hacktivists, Whistle Blower are the types of Hackers. They play a different types of role in Dark Web Mining [7].

III Blockchain

• Blockchain is a database used for storing the information in blocks

• These blocks are again chained together in chronological order.

• For example mostly Bitcoins are using the Blockchain concept with retain control.

• Irreversible of data in decentralized blockchains are immutable.The transactions for Bitcoin is permanently recorde and it can be viewable by anyone.

a. CRYPTOCURRENCY

Blockchain creates bedrock for cryptocurrencies like Bitcoin. Mostly Federal Reserve controls the U.S. dollar. Because of this central architecture system, a user's personal information with the information about currencies is technically whimsy for their financial and government sector. If a particular users' data is leaked, information will also be risk. If the financial sector collapses with unstable government, their currency may also be at risk. To avoid these type of risks, Bitcoins were introduced and conceived in the year 2008.

By extending the operations among a network of devices, blockchain permits crypto currencies like Bitcoins. And these are operated by users without any need of central authority. Mostly transaction and processing fee are reduced because of this technology. And also it provides stability and wider network to individuals for doing their business domestically without any interrupt [8].

This article is used to analyze the forum posts and it will find people through the natural language processing and sentiment analysis. This forum data being used for security research on the Dark Web .

b. COMMON TYPES OF CRYPTOCURRENCY

Bitcoin. Bitcoin is one kind of currency which is the suitable cash for the internet.Moreover it is considered as crytocurrency.Cryptography makes easier Bitcoin forming with its transactions.

• Ripple

• Litecoin.

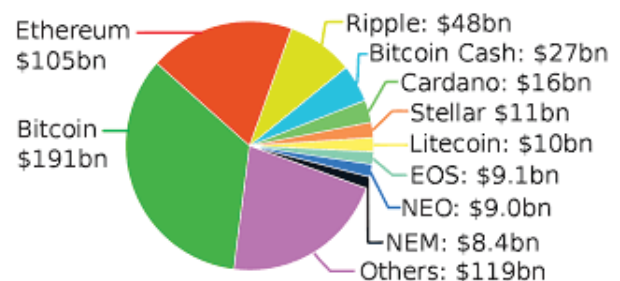• NEO.

• Cardano.

• Stellar.

• Ethereum.

Fig.1.List of Cryptocurrencies, Wikipedia, Prices since April 14, 2021

c. BITCOIN VS. BLOCKCHAIN

Blockchain technology aim is allowing digital data. And also it is used to record and giveout those information. Editing will not be allowed by this. Blockchain technology was first introduced in the year 1991 by W. Scott Stornetta and Stuart Haber. They want to invent a system where files and timestamps are not interfered the information. Since two decades, the system was not implemented. In January 2009 Bitcoin was introduced by the application Blockchain. This was the first real-world application.

The protocol of Bitcoin is made on this blockchain technology. From this article we knew that Bitcoin is called as electronic cash with peer reviewed fully." Transparency of Blockchain is easy to understand about the Bitcoin. Blockchain can record a payments ledger with many data point numbers. As we considered the above statements the transaction would be in the form of Election votes, Inventory products, identification of states, home deeds etc.

d. BLOCKCHAIN VS. FINANCIAL SECTORS

Financial sectors are differed from decentralized networks of blockchain. By comparing these financial sectors with Bitcoin's implementation, we can understand the difference between both banks and blockchain.

IV RESULTS

In this article, we can get an analytical result by using CTI tool or extends the basic strategies and provide an effective environment for controlling the data crawler [9]. Another one methodology named as Novel Methodology is used to collect the web information from the sources. And also applied for visualization in site contents and relationships among crawlers. This type of investigation is used for understanding the anonymous online crawlers and intelligence research [10].

Sentiment Analysis of Program in Radicalism is used to find out the isolate keywords and nouns of different users in surface web. These posts polarity will be identified whether it is positive scores or negative scores. By this score we can measure the falling and rising scores of radicalism [11].

Different mechanisms have to be implemented to find out the research path of darkweb crawlers. As a future work, it is very important to extend the navigation patterns based on these mechanisms.

V CONCLUSION

Finally from this article we can conclude with TMM Tor-use Motication Model which is designed specifically for the context in surface web.This model is used to analyse the illegal materials of online anonymous crawlers.

Still people are not getting a clear idea about Surface Web. Web and Internet are same but they differed with some common factors. Multiple networks with huge infrastructure enable connections of the million devices connections. By designing an anonymous connection in which many devices can communicate with each other devices leads to Dark Web in the Internet.

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