Analysis of Human and Drug Trafficking in Dark Web

[1]Dr. Nilakshi Jain, [2]Prof. Dipali Shende, [3]Deepranjan Bhosale, [4]Tejal Deshmukh, [5]Om Gajra, [6]Shailesh Yadav

[1]HOD Cyber security, [2]Professor, [3]B.E. Cyber Security Student,, [4]B.E. Cyber Security Student,, [5]B.E. Cyber Security Student, [6]B.E. Cyber Security Student,

[1]Cyber Security,
[1]Shah and Anchor Kutchhi Engineering College, Mumbai,India

Abstract : Because of the expanding usage of technology and the Darknet's anonymity, human and drug trafficking has grown to be one of the biggest global crimes. The paper examines the effects of the Dark Web on several facets of society and reports its conclusions. Cybercriminals exploit the dark web as a hub for unlawful activity and to offer nefarious services. In order to help law enforcement and threat researchers, it is necessary to analyze previous research on the dark web. The report compares the papers that prevent trafficking and presents successful methods that can be used as a template in the future. We also accessed the dark web in order to manually find more about the illegal services provided in the dark web.

IndexTerms - **anonymity, trafficking, human trafficking, drug trafficking, cybercriminals, dark web, darknet**

I.INTRODUCTION

This chapter aims to make one aware about the Dark web, the past , present and the ongoing trends in it . And how all of this has affected the online presence of the internet user. The internet can be likened to an iceberg with the surface web, the deep web, and the dark web as its three layers. The surface web is easily accessible through conventional search engines, while the deep web comprises entities like transactional databases and password-protected email accounts, which are not indexed in search engines. The dark web is only accessible through unique browsers like Tor and offers anonymity to both data and individuals, making it a hotspot for illicit activities like trading private medical information, drugs, and weapons, as well as organ trafficking[22]. Transactions on the dark web are facilitated through cryptocurrencies like Bitcoin, and the government finds it difficult to trace them[25]. The dark web accounts for a significant portion of the internet, with only 4% of it being available on the surface web in 2017 and the remaining 96% belonging to the Deep web. In the following sections, we will briefly discuss some of the illegal activities that take place on the dark web[17]. The Layers of the Internet can be visualized by the figure 1:

Fig. 1   Layers of Internet[19]

The emergence of the Dark Web has opened up new avenues for illicit activities, such as drug and human trafficking. A portion of the internet referred to as the "dark web" isn't listed by search engines and requires specific software to access, offers anonymity and encryption, making it an ideal platform for illegal activities[14]. The use of the Dark Web for drug and human trafficking has increased significantly in recent years, posing a significant challenge to law enforcement agencies around the world. This research paper aims to examine the relationship between the Dark Web and human and drug trafficking. The paper will analyze the different techniques and tools used on the Dark Web for trafficking, the challenges faced by law enforcement agencies in combating these activities, and the potential solutions to this problem[19]. Additionally, the paper will explore the social and economic impacts of human and drug trafficking facilitated by the Dark Web, both at a global and local level. By shedding light on the link between the Dark Web and human and drug trafficking, this research paper hopes to contribute to the ongoing discussion on the regulation of

the internet and the need for effective law enforcement strategies to combat the increasing use of the Dark Web for illicit activities.[5]

Motivation

By conducting a detailed analysis of the nature and scope of human and drug trafficking on the Dark Web, this research paper aims to contribute to a better understanding of these complex issues. Specifically, it seeks to answer the following questions: What are the main methods used by drug traffickers to recruit and control human operatives on the Dark Web? How do these operatives operate within the Dark Web ecosystem, and what are the risks associated with their involvement in drug trafficking? Furthermore, what can be done to prevent or disrupt drug trafficking on the Dark Web, and how can law enforcement agencies better equip themselves to tackle this problem? By examining these questions, this research paper seeks to contribute to a deeper understanding of the Dark Web's role in facilitating drug trafficking and Human trafficking highlighting the need for greater cooperation between law enforcement agencies, civil society, and other stakeholders to combat this growing problem. Ultimately, this research aims to provide policymakers and practitioners with evidence-based insights that can inform the development of more effective strategies to prevent and disrupt drug trafficking on the Dark Web.

Problem Statement

The problem statement for this research paper is to understand the complex nature of human and drug trafficking on the Dark Web and to identify the methods used by criminal networks to engage in these activities. Additionally, the research aims to identify the challenges faced by law enforcement agencies in detecting and disrupting these activities. By addressing these issues, this research paper aims to contribute to a better understanding of the phenomenon of human and drug trafficking on the Dark Web, and to provide insights that can inform policy and practice in the fight against these illegal activities. Objectives: • Understand the complex nature of human and drug trafficking on the Dark Web. • Identify the challenges faced by law enforcement agencies in detecting and disrupting these activities. • Provide research-based real-world data to support the ongoing threats, and then use the research's analysis to build a countermeasure.

Problem Solution

To tackle the problem of human and drug trafficking on the dark web, this research paper proposes a mixed-methods approach that combines qualitative and quantitative data analysis. The research will rely on primary sources such as interviews with law enforcement officials, NGOs, and technology experts, as well as secondary sources such as academic literature and news reports. The study will identify the methods used by criminal networks to engage in these activities, and the challenges faced by law enforcement agencies in detecting and disrupting them. Additionally, the research aims to identify best practices and strategies that can be used to combat these illegal activities. Overall, the study aims to provide insights that can inform policy and practice in the fight against human and drug trafficking on the dark web.

The research findings will be useful to those seeking to develop new strategies and approaches to combat these illegal activities, and contribute to the global effort to protect vulnerable individuals from exploitation on the dark web.

II. LITERATURE REVIEW

In the literature review for this project, we have analyzed and compared over 28 research papers on topics related to dark web, human trafficking and drug trafficking. Along with how to access that dark web ,the markets on the dark web and similar things. Some papers were based on important organizations like the FBI, the United Nations and special centers set up for protection of women and children from dark web and curb spread of illegal activities . In the paper [1] The article discusses the three layers of the internet: surface web, deep web, and dark web, where the last one is only accessible through unique browsers like Tor, and it is anonymous and untraceable. The dark web is a hub for illicit activities such as organ trafficking, trade of private medical information, and drug trafficking, but it also provides harm reduction forums where consumers share information about safe drug use. The article emphasizes the need for educating healthcare providers and patients about the potential hazards of the dark web, such as the theft of medical records and hacking of electronic devices and maximizing patients' medical data security in the digital era.[1]

This paper [2] gives information regarding dark web. It also gives information about various aspects of darkweb.The paper gives the history and how dark web came to be. It also talks about the precautions to take while visiting the dark web, features and properties of dark web and how the dark web is used. Human trafficking in dark web takes place in a place named Black Death. This organization operates in dark web by frequently changing URLs. Most of the victims of human trafficking are recruited for sex or organ trafficking.[2]

The author in the paper [3] explains that the huge infrastructure and several computer networks that make up the Internet are interlinked. Search engines can reach the webpages which make up the Surface Web, while the Deep Web is not indexed and cannot be accessed by traditional search engines. The Dark Web is a segment of the Deep Web, accessed through TOR, and is anonymous and hidden. Special browsers such as TOR and I2P provide anonymity, privacy, and the possibility of non-detection.[3]

In this paper [4]the author explains A secret, untraceable portion of the Internet called the "Dark Web" is used to store and access private information, but it can also be abused for criminal and illegal purposes. The overview of the dark web and its techniques for confidentiality and anonymity are covered in this essay.[4]

This paper [5] explores how organ trafficking is conducted. Till 2011,organ transplantations were openly done as there were no strict laws regarding this issue. As such organ transplantations became more secretive strategies such as multiple payments not exceeding a certain limit which would trigger the authorities are used for money exchange. This paper focuses on how to detect organ trafficking using TOR browser and DARPA's Memex program and self-developed tool Onion Harvester and HSProbe to find the hidden services using manually compiled list or google search results and creates a log file of the services and their status and the success of the probe. The Onion Crawler tool is used to crawl the active hidden services and the information acquired is used to build a probabilistic risk model to help identify possible organ trading.[5]

In this paper [6] a custom made, python-based crawler named Link Grabber is used and it connects internet through SOCKS proxy in TOR network. At the start of collecting the data the links available on hidden wiki were crawled. The fresh links that were found and a list of 25,742 unique onion addresses were found. Another customized crawler named Content Grabber downloaded

the markup of opening page of found services.6,227 of the found hidden services were active and these were examined and categorized depending on the nature of the service. [6]

In this paper [7] the relationship between human trafficking and cryptocurrency is discussed. Dark web is a hub of human trafficking due to its anonymity the ease of use of crypto markets and the difficulty in tracking of cryptocurrencies makes it more comfortable to commit crimes in the dark web. The paper reviews human and drug trafficking by examining the Economic theory and Rational Choice Theory. The finding suggests that social factors like poverty, social imbalance and greed and anonymity and cryptocurrencies are increasing the rate of human trafficking today. The paper emphasis on the need of an international law for the use of cryptocurrencies.[7]

In the paper [8]The author of the report emphasizes difficulties in preventing human trafficking caused by the growing usage of mobile technology and the Darknet's anonymity. The chapter also examines criminal justice tools available to fight Internet facilitated human trafficking.[8]

In the Paper [9] this study uses a content analysis of newspaper articles to investigate how human trafficking and technology are related. In order to track the development of human trafficking in cyberspace, it studies publications over time and defines important terminology related to human trafficking in the context of sex trafficking. The main source of knowledge regarding past and present occurrences is news stories.[9]

The paper [10] has analyzed that the main objective of the study is to find out, analyze and evaluate behavioral patterns related to human trafficking. Therefore, below they have defined the following objectives that will guide us in the research process: Analyze and identify Spanish data resources that record information related to human trafficking. Automatically generate Spanish data to fight human trafficking. Identify behavioral patterns. by applying machine learning algorithms related to human trafficking. Build a predictive model based on machine learning algorithms, which makes it possible to identify crimes related to human trafficking from heterogeneous materials [10]

In this paper[11] the author contends that the most effective strategy to stop online human trafficking is a new Attaching Criminal Dark Web Statute, as it can encourage prosecutors to charge traffickers and discourage them from enslaving individuals.[11]

In the paper [12]the author investigates the relationship between human trafficking and the dark web, examining several forms of human trafficking and the characteristics of trafficking victims. To gauge public awareness of the relationship between trafficking and the dark web, surveys were undertaken.[12]

In the paper [13]the author in addition to highlighting the critical aspects of exploitation that have been overlooked in big data focused studies on sex trafficking, this paper analyzes the difficulties and limitations of comprehending exploitation through algorithms and internet data. It contends that a continuum of exploitation that is sensitive to the social context of exploitation within the sex industry must be used to rethink the concept of sex trafficking.[13]

In the paper [14]the author explores the many elements of the internet, including the black web, and offers a bird's eye view of the domestic legal system and global agreements designed to prevent human trafficking. It attempts to comprehend the dark web's origin, horrors, and scope; examine how it affects human trafficking; and highlight the necessity for legislation that regulates it independently.[14]

In the paper [15]the author seeks to comprehend the nature, abuses, and scope of the dark web, examine how it affects human trafficking, and highlight the need for legislation that specifically addresses it. [15]

The author in the paper [16] discusses the backdrop of human trafficking along with the use of digital currency and its ramifications. Machine learning techniques are then used to analyze datasets on trafficking that are freely available. Additionally, it offers suggestions for data collection, management, and analysis to support the battle against human exploitation. The researchers used Python, RapidMiner, and Microsoft Excel to do an exploratory data analysis. In most age groups, they discovered that female victims of human trafficking outnumber male victims, although male victims outnumbered female victims in the 39–47 age range. [16]

This paper [17] explores if the shutdowns of drug markets on the dark web by law enforcements is an effective solution to curb drug trafficking online and offline. The paper suggests to reconsider the attention given to drug marketplaces by law enforcement to educating the public about the potential harms of drugs itself[17].

In the report by the UN [18] makes no judgments about the legal standing of any nation, territory, city, or region. When referring to chemicals covered by international drug control treaties and their non-medical use, the apolitical term "drug use" is employed. All analysis is based on official data provided to the UNODC by Member States. Darknet markets provide a sense of anonymity, which helps some customers feel less inhibited and gets around the difficulty of needing both buyers and sellers to be present at the same time and location. Local markets are no longer necessary as a result.[18]

In the paper [19]the author gives a detailed insight on the Dark web . A hidden section of the Internet called the "Dark Web" can be used for both legitimate purposes and to cover up illegal activities. Criminals, terrorists, and state-sponsored spies can utilize the Dark Web to carry out online surveillance, sting operations, and covert computer network operations.[19]

In the paper [20] a technical analysis and proof of concept of the operating vectors used by various malware in the Middle East are provided in this research. It illustrates the evolutionary elements incorporated in cyberattacks and focuses on the actual drawbacks of each malware, including what makes it susceptible to detection or undetectable.[20]

In the paper [21] the author tells how new software are used in the dark web .A decoy computer system called a honeypot, which can lure and catch intruders by pretending to be a real system, is contentious. This essay discusses the problems with this approach from both perspectives[21].

The author in his work [22] discusses about Cybercrime. Cybercrime is a multifaceted, intricate topic that affects all different kinds of businesses. To present an overview of the instruments used by criminals, the most frequent causes of criminal activities, and the key risks and vulnerabilities for organizations, targeted interviews and case study analysis have been done. The necessity for a comprehensive plan for SMEs to defend themselves against cybercrime has been suggested by interviews with institutional players and businesses that have helped to explain crucial issues[22].

In the paper [23] the author says that in the previous two decades, network and Internet technologies have advanced substantially, with the Deep Web growing to be the largest component of the internet. However, the Dark Web has evolved into the ideal platform for hosting illegal activity, necessitating the development of automated systems to help law enforcement and security

organizations gather data from the Dark Web. The ideas required to create a crawler that gathers data from a dark website are illustrated in this paper.[23]

The author in the paper [24] discusses that the act of obtaining and forcing men, women, and children into sexual exploitation for profit is known as sex trafficking. Traffickers utilize a number of channels to market their services, including social media, online classified advertisements, and bulletin boards. It is a severe felony. Internet and social media are other tools that EMS clients utilize to exchange leads and share their experiences. Initiatives have been put in place by law enforcement agencies to prevent child sex trafficking.

In the paper [25],it aims to identify human trafficking patterns from illegal domains, as nonparametric learning, which uses data mining and semi-supervised machine learning techniques, can identify human trafficking advertisements from textual data. indexed by Backpage.com [25].

In the paper [26]the author aimed to collect evidence of any malicious activity in the dark web by using computer security mechanisms as traps called honeypots. The main goal of the production honeypots is to divert the attacker from the real running systems.[26]

In The paper [27] authors discuss the use of social network analysis to study communities on the dark web. The authors argue that social network analysis can provide insights into the structure and behavior of these communities, which can help law enforcement agencies to better understand and combat criminal activities on the dark web[27].

The paper [28] under discussion provides an overview of the impact of the Dark Web on various sectors of society. One of the key topics explored by the author is online privacy on the Dark Web, which encompasses anti-censorship and political activities. The paper highlights the use of TOR to circumvent blocked websites or materials, as well as the anonymity it provides to journalists and individuals who need to connect anonymously with whistle-blowers and dissidents[28].

Thus, by reviewing the papers, we get an idea about the research conducted on human and drug trafficking. We also get to know the different topics related to human and drug trafficking on which research is being conducted.

III. ANALYSIS

Here,we are analyzing some of the papers related to human and drug trafficking and categorize them into different sections based on the topics of research they conducted upon.

Table 1 Comparative analysis

Sr. No	Name	Year	Category	Description
1.	Dark web:The hub of crime	2022	About Dark Web	About the dark web and how it works.
2.	Dark web a web of crimes	2020	About Dark Web	Overview of dark web such as its features,advantages and disadvantages.
3.	Dark web and impact	2019	About Dark Web	Influence of the dark web in society and how trade is done in it.
4.	Human Trafficking and Its evolution in Cyberspace	2021	About Human/Drug trafficking	Analysis of direction of research in human trafficking in dark web
5.	How does the Dark Web Influence Human (and Sex) Trafficking?	2021	About Human/Drug trafficking	Survey on human trafficking and dark web

6.	Using technologies to uncover patterns in human trafficking	2021	About Human/Drug trafficking	Using ML to survey the data collected related to human trafficking
7.	The Double-Edged Sword of the Dark Web	2020	About Dark Web	About crimes conducted on dark web and its impact to society
8.	The Relationship of Drug and Human Trafficking and their Facilitation Via Crypto	2019	Factors affecting drug/human trafficking in dark web	Examines the relationship between human trafficking and use of unregulated cryptocurrency in dark web
9.	Good Tech, Bad Tech: Policing Sex Trafficking with Big Data	2022	Factors affecting drug/human trafficking in dark web	How much technology affects sex trafficking
10.	Web of Lives: How Regulating the Dark Web Can Combat Online	2018	Laws available and suggestions	Suggests government regulation on dark web
11.	A Brief Analysis Of The Laws Relating To Human Trafficking In The Era Of Dark Web	2022	Laws available and suggestions	Overview of laws regarding dark web in india
12.	Flagit: A system for minimally supervised human trafficking indicator mining	2017	Methodology to track trafficking in dark web	System that tags suspicious websites in different categories
13.	Identifying human trafficking patterns online	2017	Methodology to track trafficking in dark web	Predictive model to identify human traffic based in behavioral patterns
14.	Human Trafficking and the Darknet	2020	Methodology to track trafficking in dark web	Review of technologies used to combat humantrafficking online
15.	A Framework to Reveal Clandestine Organ Trafficking in the Dark Web and Beyond	2019	Methodology to track trafficking in dark web	Methodology to detect organ trafficking in dark web using readily available tools

16.	Exploring and analyzing the dark Web	2019	About Dark Web	Hidden services available on the dark web were analyzed using a custom crawler in python

Thus analyzing the papers we found information on following topics:

1.Information about dark web.

2.Information on human/drug trafficking in dark web and its nature.

3.How factors like technology and cryptocurrency affects human/drug trafficking in the dark web.

4.Government regulations available against dark web and suggestions to improve it.

5.Methodology to track human/drug trafficking in dark web.

6.Technologies used to track human/drug trafficking in the dark web.

Drug trafficking in dark web:
Drug markets are one of the most popular websites visited in dark web.The shutdowns of drug markets by government in dark web causes the drug markets to either go from online to offline trade or change to a new platform entirely.Shutdowns causes an increase in rate of the crime,opposite of what was expected.[17]

Human trafficking in dark web:
 [1] talks about how organ trafficking has turned local to global from 2005 to 2013 and the price of organs on dark web has doubled from 2008 to 2015 for approx. $40,000.
[2] mentions Black Death as an organization where human trafficking takes place on the dark web and as reported by a 2017 report [4], most of the survivors of human trafficking were recruited for labor and sex trafficking.
Findings of [7] shows factors such as greed,social imbalance, poverty, and.anonymity and use of cryptocurrency in dark web is fueling this trade.
 [9] analyzes the relationship between trafficking and technology by analyzing articles with related keywords over different decades which peaked during the 2010s and they hypothesized that it will rise by 2029 .The Figure 2 shows how less aware the media is to how technology is used for human trafficking.
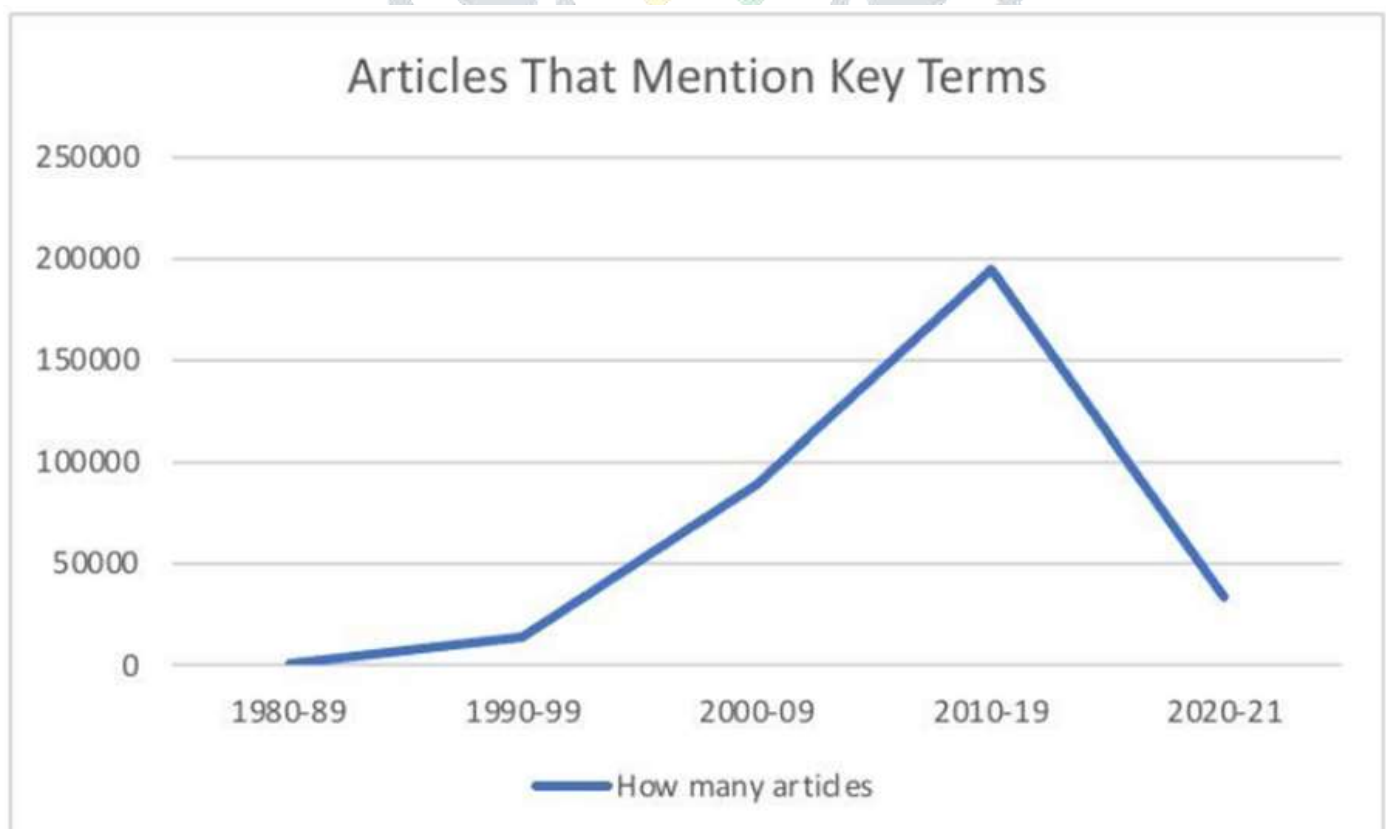

Fig. 2 Newspaper Articles Involving Trafficking and Technology Over Time[9]

Government regulations and drug/human trafficking in dark web

   Government provisions regarding Human trafficking are as follows:

1.Article 23 of the Indian Constitution safeguard the rights of victims of human trafficking by explicitly banning human trafficking[14].

2.Section 370 of the Indian Penal Code provides that whoever exports, imports, removes, buys, sells or disposes of any person as a slave, or accepts, receives or detains against his will any person as a slave, shall be punished with imprisonment of either description for a term which may extend to seven years, and shall also be liable to fine. [14]

3.Meanwhile, Section 371 punishes habitual imports, exports, removes, buying and selling etc. in slaves with either life imprisonment or a period, not exceeding ten years. [14]

4.Section 372 and 373 punish buying, selling, hire, purchase or disposal of any person under the age of eighteen years with the intention or knowledge that such person shall be employed or used for the purpose of prostitution or illicit intercourse with any person or any other unlawful and immoral purpose with imprisonment of either description or for a term which extends to ten years and shall also be liable to fine.

5. Section 374 punishes whoever unlawfully compels any person to labor against the will of the other person with an imprisonment for one year , or with both.[14]

Factors affecting drug/human trafficking in dark web:

   [1] mentions that crypto market covers 5 to 10% of kidney market is the estimation.Since the transaction with bitcoin, is recorded in public ledger called blockchain identifies the specific transaction only and not the identity of particular bitcoin [3][8] , users often use crypto currency called bitcoin as it is untraceable.[2]This ease of use of crypto market and the law enforcement unable to track cryptocurrencies,makes it comfortable to commit trafficking crimes[7].

   [7] reviews the application of rational choice theory and economic theory.Following the rational choice theory it is noted that anonymity and ease of use of cryptocurrency in dark web makes it easier for criminals to commit a crime as the risk of getting caught is really low,while following the economic theory it is noted that the presence of cryptomarkets makes it easier for criminals not to get caught as it hard to track cryptocurrencies.This makes it a high profit and low risk crime and makes it easier for criminals commit the crime[7].

   Technology is also misused by traffickers to exploit their victims and the use of sex ads on websites is the most common form of exploitation.[9]

5.Methods used for tracking in dark web:

Table 2 Methodologies used in papers to trace links in dark web

Name of the paper	Methodology	Name of the software/websites used
Exploring and analyzing the dark Web: A new alchemy[6]	1.Used a custom made python based web crawler & connected to Tor using SOCKS proxy. 2.Crawler was fed with available links on Hidden Wiki. 3.Links were crawled,links were stored. 4.The sites which forbid the crawler were manually accessed and manually classified collected data.	Tor browser,Crawler named Link-Grabber, Socks proxy, Hidden wiki

A Framework to Reveal Clandestine Organ Trafficking in the Dark Web and Beyond[5]	1.Created a python script called Onion Harvester to collect .onion names from websites. 2.Found .onion names are stored in a file 3.HSProbe creates a log file of information about the hidden services. 4. Onion Crawler is used to crawl the websites 5.Open-source Java application UnBBayes is used to build probabilistic models	TOR browser,tools from DARPA's Memex program,Onion Harvester,Onion Crawler,UnBBayes
Identifying human trafficking patterns online[10]	1.Crawling technique used to extract data from dark web and online news and social media 2.Generated data is tagged and analyzed and fed to machine learning algorithms. 3.Using deep learning a predictive model is made	

Customs crawlers are seen to be preferred and are based on python.Hidden wiki is seen to be used the most to find links of hidden services in the initial stage.Software like tools from DARPA's Memex program are used.

Technologies used and mentioned:

Softwares like XKeyscore is used by intelligent agencies like NSA to identify TOR users[2].The Cyber-attack Automated Unconventional Sensor Environment (CAUSE) program associated with (IARPA)Intelligence Advanced Research Projects Activity aims to detect cyber attacks earlier than other methods available[3].Tools from DARPA's Memex program are also used in the analyzed papers[5]

Accessing the Dark Web

Accessing the dark web is not safe as it puts our data, our system, our identity at risk while surfing on it. So to be safe we should keep our identity anonymous while surfing on the darkweb. There are many ways to be anonymous.

It takes the usage of the Tor anonymizing browser to access the dark web. Your web go-between requests are routed through a number of proxy servers run by thousands of individuals all over the world using the Tor browser, which hides your IP address and prevents it from being tracked.Tor works like magic, but the outcome is an agonizingly slow, unpredictable, and variable experience, much like the dark web itself.

By encrypting communications and directing online material through various web servers, the dark internet aims to give anonymity.. While the dark web is often depicted as an anarchic forum for criminal activity, that's not necessarily true. The darknet is merely an anonymous area of the internet that is open for illicit access or use.

8.Use of Tor Browser and Tail OS

During our research we used virtual machines while collecting data and surfing the dark web. To make this possible first of all we installed Virtual machines on our system. Then we created our own Virtual system on the VM of Ubuntu Linux .

We then used Tails Os in our Virtual system. Tails OS is designed to be a portable and self-contained operating system that leaves no trace on the computer it is used on. It includes a suite of privacy tools and software, such as the Tor Browser, Pidgin instant messenger, and the GnuPG encryption software. Tails OS also includes a number of security features, such as a built-in firewall and a memory wipe feature that erases all traces of activity on shutdown.

It is important to note that while Tails OS provides a high degree of privacy and security, it is not foolproof, and users should always be cautious and take appropriate measures to protect their privacy and security.

When you have access to a virtual machine burner box, you can work on the Deep Web and Dark Web without endangering your computer's original desktop or hard drive.

It is strongly encouraged to utilize virtual machine software rather than your locally installed Windows to browse the dark web. because malware can be swiftly featured in a properly controlled virtual environment.

9.Analysis on our research :

To get access to various forums, websites where illegal things are carried out is not that straight forward. There are many onion websites which need to be searched deeply to get into those markets. During our research we founded drug markets , Arms Market,

Human and organ markets where organs and human trafficking is done. Red rooms where live M*r**r is done. We founded forums where data of many big companies is for sale which have been stolen from databases of companies.

You would assume that browsing the dark web wouldn't be difficult with all the activity and the look of a busy market. It's not. When everyone is nameless and a significant portion of them are out to fish individuals, the setting is as disorganized and chaotic as you might anticipate.

Below you can see the layers of a virtual softwares on Tor Browser in Figure 3
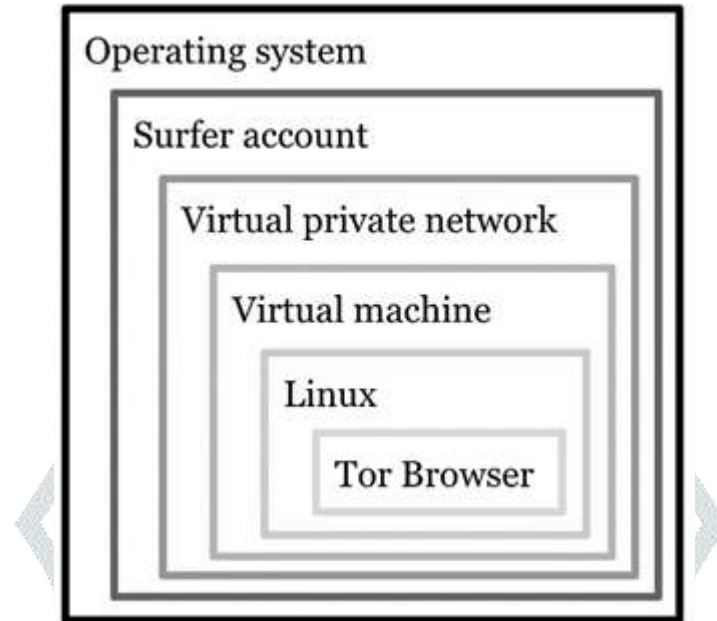
Fig. 3 Overview of the layers of Tor Browser

Sourceofimage:https://medium.com/@deepwatch/how-to-enter-the-dark-web-safely-a-step-by-step-guide-819ba4e2cd6f

Below are some evidence in the form of images that were observed while actually visiting the Dark web as you can see in Figure 4 , Figure 5 , Figure 6 , Figure 7 and Figure 8.
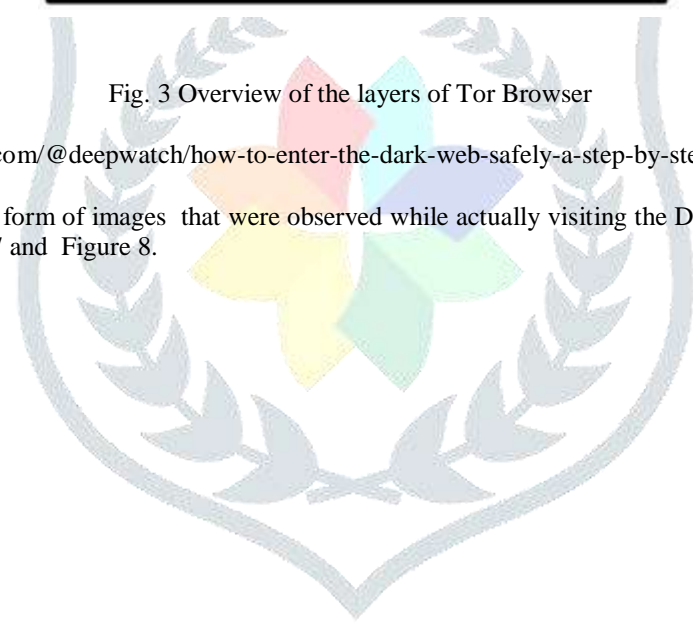
2021	AlpineReplay Database	alpinereplay.com	988,374	$29	buy
2012	Android Forums Database	androidforums.com	745,355	$28	buy
2021	AnimalJam (Partial) Database	animaljam.com	7,104,998	$39	buy
2021	AnimeGame Database	animegame.me	1,435,329	$30	buy
2018	Animoto Database	animoto.com	22,437,749	$56	buy
2016	Animu Tank Database	animutank.com	170,707	$24	buy
2016	Anti Public Combolist	N/A	562,077,492	$602	buy
2018	Apollo Database	apollo.io	99,309,091	$136	buy
2021	Appen Database	appen.com	5,888,405	$37	buy
2010	Apple Database	apple.com	355,161	$26	buy
2017	Arkansas 2017 Voter Database	arkansas.gov	1,746,067	$30	buy
2019	Armor Games Database	armorgames.com	11,013,617	$43	buy
2016	Army Force Online Database	armyforceonline.com	2,303,891	$32	buy
2019	Artsy Database	artsy.net	1,079,831	$29	buy
2015	Ashley Madison Database	ashleymadison.com	30,811,934	$65	buy
2013	Astropid Database	astropid.com	5,788	$19	buy
2015	Aternos Database	aternos.org	1,241,053	$29	buy
2018	Atlas Quantum Database	atlasquantum.com	261,463	$25	buy
2015	Auto Hot Key (AHK) Database	autohotkey.com	88,871	$23	buy
2014	Avast Database	avast.com	422,959	$26	buy
2018	Avvo Database	avvo.com	4,105,095	$35	buy
2008	Baby Names Database	babynames.com	846,742	$28	buy
2016	Badoo Database	badoo.com	112,005,531	$149	buy
2017	Bandai Namco Forums Database	forums.bandainamcogames.com	26,554	$20	buy
2011	Battlefield Heroes Database	battlefieldheroes.com	530,270	$27	buy
2014	Bell Canada 2014 Database	bell.ca	20,902	$20	buy
2017	Bell Canada 2017 Database	bell.ca	2,231,256	$31	buy
2021	Bhinneka Database	bhinneka.com	2,428,668	$32	buy
2014	Bin Weevils Database	binweevils.com	1,022,883	$29	buy
2015	BitcoinTalk Database	bitcointalk.org	499,481	$27	buy
2014	Bitly Database	bit.ly	9,316,196	$41	buy
2018	Bitmain Database	bitmain.com	102,095	$23	buy
2018	Bitmax BTMX Database	bitmax.io	160,106	$24	buy
2021	BitRewards Database	bitrewards.com	423,749	$26	buy
2014	BitsHacking Database	bitshacking.com	41,348	$21	buy
2016	BitTorrent Forum Database	forum.bittorrent.com	34,235	$21	buy
2018	Black Hat Pro Tools Forum Database	blackhatprotools.info	110,161	$23	buy

Hacked databases store

Press / or CTRL+F on keyboard to search our database. Click table header to sort databases.

Year	Database	Site	Records	Price	Buy
2023	Deezer users and credit cards NEW!	deezer.com	257,829,348	$297	buy
2023	Twitter January 2023 leak NEW!	twitter.com	235,047,943	$274	buy
2015	000Webhost Database	000webhost.com	13,545,468	$46	buy
2021	123RF Database	123rf.com	8,661,578	$41	buy
2013	1337 Crew Database	1337-crew.to	18,965	$20	buy
2014	143VPN Database	143vpn.com	586	$19	buy
2016	17.Media (17 直播) Database	17.media	28,052,322	$62	buy
2011	17173 Chinese Database	17173.com	9,755,600	$42	buy
2011	178 Database	178.com	9,072,977	$41	buy
2018	2,844 Database Collection Troyhunt	*Multiple*	80,115,532	$117	buy
2018	500px Database	500px.com	14,870,303	$48	buy
2011	7k7k Database	7k7k.com	14,928,048	$48	buy
2018	8fit Database	8fit.com	15,025,407	$48	buy
2017	8Tracks Database	8tracks.com	18,674,439	$52	buy
2016	Abandonia Database	abandonia.com	782,609	$28	buy
2014	Acne Database	acne.org	432,943	$26	buy
2019	ActionNetwork Database	actionnetwork.com	692,310	$28	buy
2013	Adobe Database	adobe.com	152,445,165	$190	buy
2016	Adult Friend Finder 2016 Database	adultfriendfinder.com	220,000,209	$258	buy
2015	Adult Friend Finder Database	adultfriendfinder.com	3,867,997	$34	buy
2013	AhaShare Database	ahashare.com	180,468	$24	buy
2017	ai.type Database	aitype.com	20,580,060	$54	buy
2014	Aim Junkies Database	aimjunkies.com	166,380	$24	buy
2022	AirAsia Ransomware Attack	airasia.com	5,149,385	$36	buy
2018	Airlink Databreach	flyairlink.com	53,555	$22	buy
2015	Alabama Voter Database	alabama.gov	132,788	$24	buy
2018	Alaska 2018 Voter Database	alaska.gov	570,168	$27	buy
2015	Alaska Voter Database	alaska.gov	487,415	$27	buy
2016	All Womens Talk Database	allwomenstalk.com	200,257	$25	buy
2016	Alphas.sx Forum Database	alphas.sx	8,508	$19	buy

hackedabm6ejvmh7xiiqdq [2]
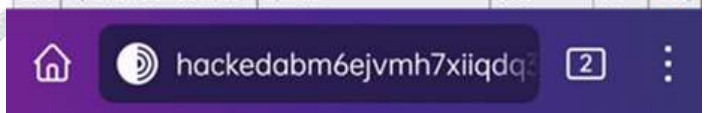
Fig. 4 Hacked Database for selling on online stores.

Link: http://catalogpwwlccc5nyp3m3xng6pdx3rdcknul57x6raxwf4enpw3nymqd.onion/

Description: The above link takes us to one of the forums on the dark web where we can have access to numerous pieces of data which have been stolen from the database of various companies. We can also see many other services related to drug trafficking and hacking services.
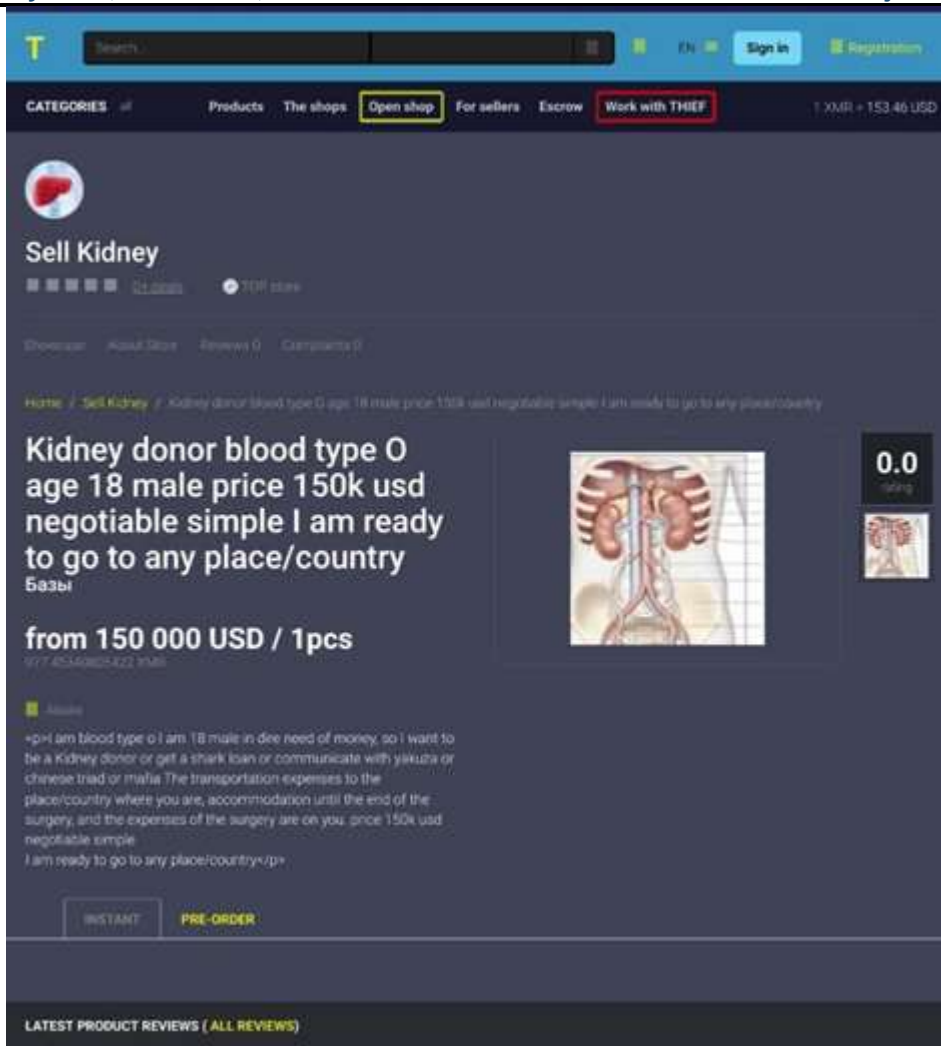
Fig. 5   Human Trafficking (Organ Selling) live on the website.

Links:

http://qsw7iurcrdwyml5kg4oxbmtqrcnpxiag3iumdarefzeunnyc2dnyljad.onion/product/306

http://qsw7iurcrdwyml5kg4oxbmtqrcnpxiag3iumdarefzeunnyc2dnyljad.onion/product/303

Description : We can see that this website is providing and supporting organ trafficking . It showcases the data of the person whose kidney is to be sold .
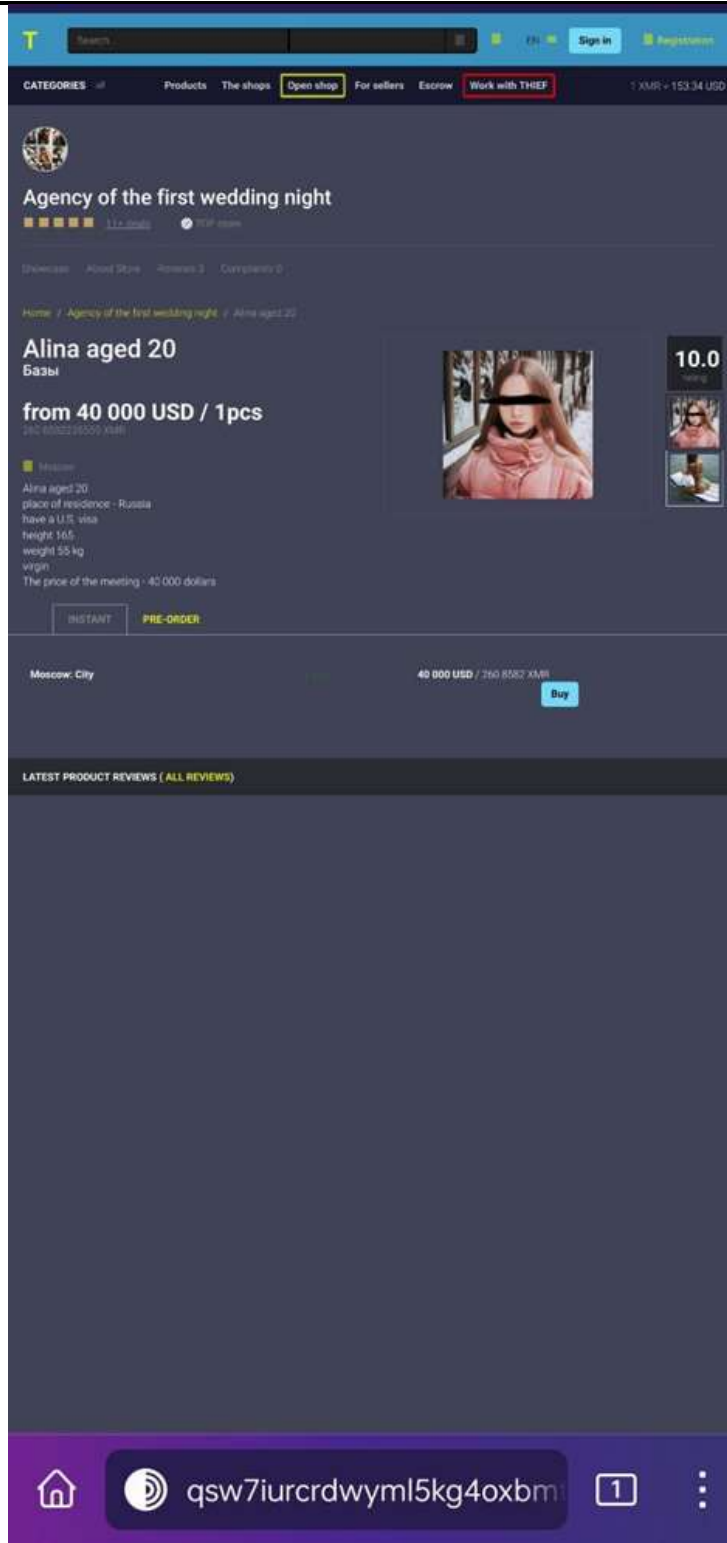
Fig. 6 Human Trafficking (Girl & Child Exploitation) live on the website.

Links : http://qsw7iurcrdwyml5kg4oxbmtqrcnpxiag3iumdarefzeunnyc2dnyljad.onion/product/52
http://qsw7iurcrdwyml5kg4oxbmtqrcnpxiag3iumdarefzeunnyc2dnyljad.onion/product/387

Description : The above links show the data of the two females which can be buyed online. Their Ages are 18 and 20. It shows human trafficking is carried out here on the darkweb. The images are also provided of them along with their price and the country.
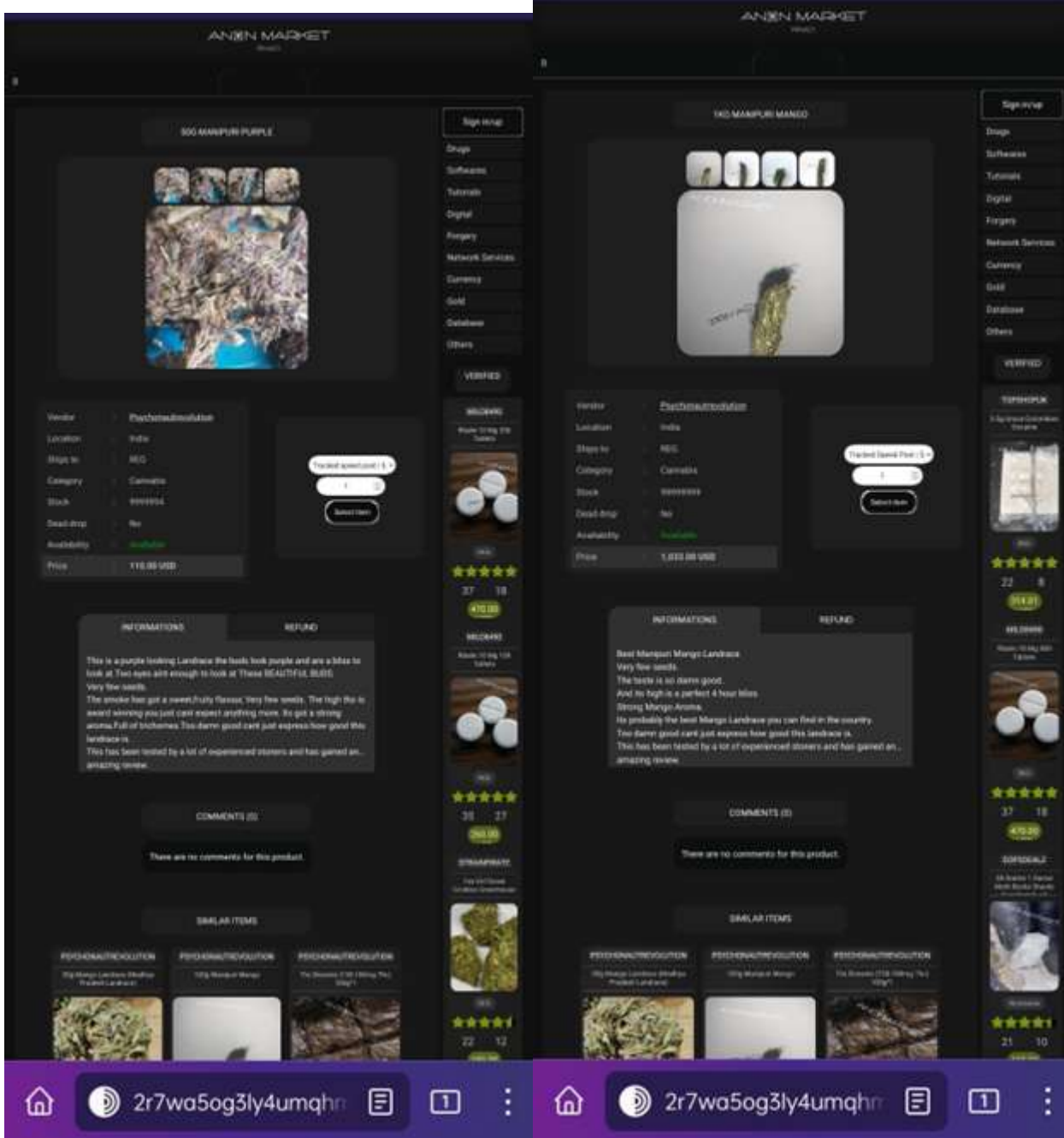
Fig. 7 Drug Trafficking (Indian Markets)

Link   :
http://2r7wa5og3ly4umqhmmqqytae6bufl5ql5kz7sorndpqtrkc2ri7tohad.onion/product/qOMew00V2zRNpAFTMYNbQUyagDbd
KlA
http://2r7wa5og3ly4umqhmmqqytae6bufl5ql5kz7sorndpqtrkc2ri7tohad.onion/product/C6Ob7U2iWjofFv5Gw35bEuDQMbkzpm
Ry
Description : The given store in Dark Web provides us drugs for sold from different locations and all of them ready to deliver in
India and one of them is from India.
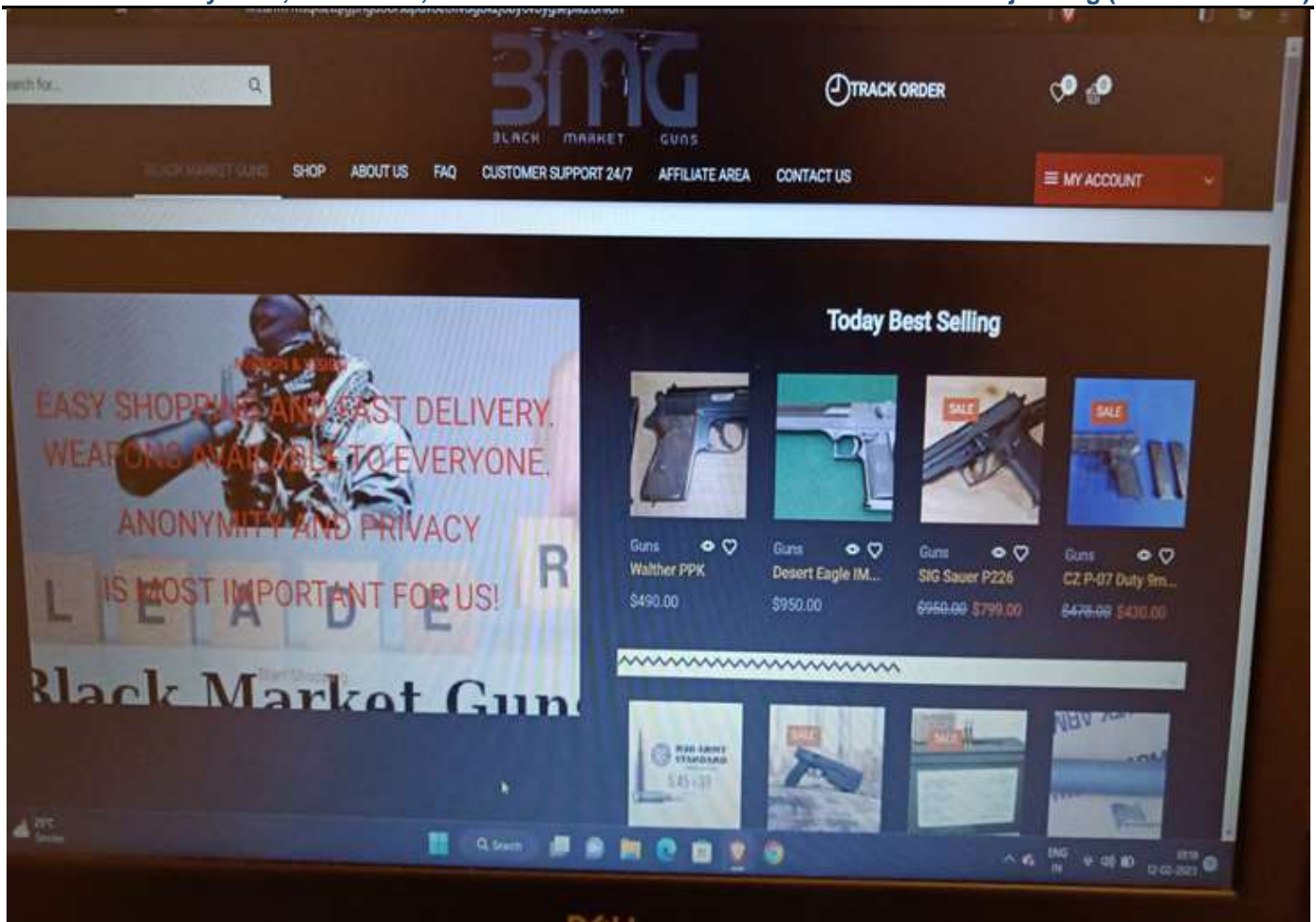
Fig. 8 Weapon Trading (International Border deliveries).

Thus by analyzing and actually visiting the suspected sites , we found that the potential threats faced and described by the Law enforcement agencies , the victims and the researchers are true and possess a serious harm to the society and its well being .

IV. CONCLUSION

This research aims to develop an analysis to address the issue of human trafficking in India, recognizing that it is a complex problem that involves various players from different backgrounds. The dark web has become a hub for illegal activities such as organ trafficking, drug trade, and weapon sales due to its anonymity and cryptocurrency features. Healthcare providers should educate patients about these risks regarding organ trafficking, and proactive security measures should be implemented to eradicate these problems. Preventive measures to decrease demand and improve buyer accountability seem to be effective ways to lower human and drug trafficking both online and offline.

Future Scope

There are a number of limitations with the current study that could be addressed by future researchers. One major limitation is that the analysis only included articles and a limited number of research papers . To gain a clearer image, future research could expand its resources by considering other sources such as police reports or conducting interviews with law enforcement agents. Police reports may provide more detailed information about how human traffickers are using technology to commit these crimes. However, it is important to acknowledge that police reports also have limitations, such as being difficult to obtain, not being complete, and potentially being biased. Interviewing police officers could also be a valuable source of information since they are often at the forefront of dealing with these types of crimes. It is important for researchers to continue exploring the potential effectiveness of charging offenders with cybercrime-related charges and using technology to combat human trafficking. Furthermore, future research should focus on interviewing survivors of human trafficking as well as law enforcement agents involved in posing as potential victims. The United Abolitionist group could also serve as a valuable resource for researchers, as they connect organizations and resources to educate, prevent, rescue and rehabilitate against modern-day slavery and exploitation. Ultimately, human trafficking is an ongoing and growing problem that requires concerted efforts to explore the role of technology in facilitating this crime.
In terms of future work , we aim to:
1. Leverage AI technology to create an automated reply tool (chatbot) for the chatroom honeypot.
2. We can also plan to design another type of honeypot to expand the research into the dark web and social networks.
3. Collaborate and contribute to the Government Law Enforcement Agencies , NGOs and Global Organizations in curbing the social harm and evil clutches of the effects of Dark Web on the society .
4. Specifically , working closely with National Cybercrime Training Centre (NCTC), INDIAN CYBER CRIME COORDINATION CENTRE (I4C) and similar Indian organizations to help in framing better Crime laws and Privacy Policies safeguarding the online safety and presence of the users.

V. ACKNOWLEDGMENT

REFERENCES

[1] H. Akbarialiabad, B. Dalfardi, and B. Bastani,May 2020, "The Double-Edged Sword of the Dark Web: Its Implications for Medicine and Society," Journal of General Internal Medicine, vol. 35, no. 11, pp. 3346–3347, doi: https://doi.org/10.1007/s11606-020-05911-1.

[2] S. Kaur and S. Randhawa, Jan. 2020,"Dark Web: A Web of Crimes," Wireless Personal Communications, vol. 112, no. 1, doi: https://doi.org/10.1007/s11277-020-07143-2.

[3] A. S. Beshiri and A. Susuri,2019, "Dark Web and Its Impact in Online Anonymity and Privacy: A Critical Analysis and Review," Journal of Computer and Communications, vol. 07, no. 03, pp. 30–43, doi: https://doi.org/10.4236/jcc.2019.73004.

[4] S. Saha,Sep. 2022, "Dark Web: The Hub of Crime," International Journal for Research in Applied Science and Engineering Technology, vol. 10, no. 9, pp. 95–99, doi: https://doi.org/10.22214/ijraset.2022.46577.

[5] M. Heinl, B. Yu, and D. Wijesekera,2019, "A Framework to Reveal Clandestine Organ Trafficking in the Dark Web and Beyond," The Journal of Digital Forensics, Security and Law, doi: https://doi.org/10.15394/jdfsl.2019.1546.

[6] M. Faizan and R. A. Khan,5, Apr. 2019, "Exploring and analyzing the dark Web: A new alchemy," First Monday, vol. 24, no. doi: https://doi.org/10.5210/fm.v24i5.9473.

[7] Bartsch, Robert.,(2020), "The relationship of drug and human trafficking and their facilitation via Cryptomarkets and the Dark Web: A recommendation for cryptocurrency regulation." . https://minds.wisconsin.edu/bitstream/handle/1793/80014/Bartsch,%20Robert.pdf?sequence=1

[8] J. Reid and B. Fox, 2020,"Human Trafficking and the Darknet: Technology, Innovation, and Evolving Criminal Justice Strategies," Advanced Sciences and Technologies for Security Applications, pp. 77–96, doi: https://doi.org/10.1007/978-3-030-41287-6_5.

[9] G. Landron,Jan. 2021, "Human Trafficking and Its Evolution into Cyberspace: How Has Technology Transformed Human Trafficking Over Time?," Honors Undergraduate Theses, Accessed: Mar. 31, 2023. [Online]. Available: https://stars.library.ucf.edu/honorstheses/1062

[10] D. Burbano and M. Hernandez-Alvarez,Oct. 2017,"Identifying human trafficking patterns online," 2017 IEEE Second Ecuador Technical Chapters Meeting (ETCM), doi: https://doi.org/10.1109/etcm.2017.8247461.

[11] Christopher Campbell,(2018), Web of Lives: "How Regulating the Dark Web Can Combat Online Human Trafficking", 38 J. Nat'l Ass'n Admin. L. Judiciary 136　　Available at: https://digitalcommons.pepperdine.edu/naalj/vol38/iss2/4

[12] K. Williams and J. Muhammad, 2021,"How does the Dark Web Influence Human (and Sex) Trafficking? What Security Implementations are Involved in the Dark Web?,". Available: https://par.nsf.gov/servlets/purl/10284706

[13] R. Kjellgren, Mar. 2022, "Good Tech, Bad Tech: Policing Sex Trafficking with Big Data," International Journal for Crime, Justice and Social Democracy, vol. 11, no. 1, pp. 149–166, doi: https://doi.org/10.5204/ijcjsd.2139.

[14] 09Jun.2022,A Brief Analysis Of The Laws Relating To Human Trafficking In The Era Of Dark Web." Edubirdie,from https://edubirdie.com/examples/a-brief-analysis-of-the-laws-relating-to-human-trafficking-in-the-era-of-dark-web/

[15] M. Kejriwal, J. Ding, R. Shao, A. Kumar, and P. Szekely, Dec. 2017,"FlagIt: A System for Minimally Supervised Human Trafficking Indicator Mining," arXiv:1712.03086 [cs],Accessed: Apr. 04, 2023. [Online]. Available: https://arxiv.org/abs/1712.03086

[16] A. Szakonyi, H. Chellasamy, A. Vassilakos, and M. Dawson,2021, "Using Technologies to Uncover Patterns in Human Trafficking," Advances in Intelligent Systems and Computing, pp. 497–502, doi: https://doi.org/10.1007/978-3-030-70416-2_64.

[17] D. Zambiasi, Oct. 2022 "Drugs on the Web, Crime in the Streets. The Impact of Shutdowns of Dark Net Marketplaces on Street Crime," Journal of Economic Behavior & Organization, vol. 202, pp. 274–306, doi: https://doi.org/10.1016/j.jebo.2022.08.008.

[18]2020,In   Focus: Trafficking   over   the   Darknet-World   Drug   Report.from https://www.unodc.org/documents/Focus/WDR20_Booklet_4_Darknet_web.pdf

[19]Finklea, Kristin M.(2015) "Dark web." .from https://a51.nl/sites/default/files/pdf/R44101%20(1).pdf

[20]J. Moubarak, M. Chamoun and E. Filiol,2017, "Comparative study of recent MEA malware phylogeny," 2017 2nd International Conference on Computer and Communication Systems (ICCCS), Krakow, Poland,pp. 16-20, doi:/10.1109/CCOMS.2017.8075178. https://ieeexplore.ieee.org/document/8075178

[21]B. Scottberg, W. Yurcik and D. Doss, 2002,"Internet honeypots: protection or entrapment?," IEEE 2002 International Symposium on Technology and Society (ISTAS'02). Social Implications of Information and Communication Technology. Proceedings(Cat.No.02CH37293),Raleigh,NC,USA,pp.387-391,doi: 10.1109/ISTAS.2002.1013842.https://ieeexplore.ieee.org/document/1013842

[22]F. Zappa,2014"Cybercrime and the risks for the economy and enterprises at the European Union and italian levels," United Nations Interregional Crime and Justice Research Institute (UNICRI),.

[23]AlKhatib and R. Basheer, Apr. 2019,"Crawling the Dark Web: A Conceptual Perspective, Challenges and Implementation," Journal of Digital Information Management, vol. 17, no. 2, p. 51,.
 https://doi.org/10.6025/jdim/2019/17/2/51.60

[24]Wang, H., Cai, C., Philpot, A., Latonero, M., Hovy, E.H., & Metzler, D.(2012)"Data integration from open internet sources to combat sex trafficking of minors." Digital Government Research .https://dl.acm.org/doi/10.1145/2307729.2307769

[25]H. Alvari, P. Shakarian, and J. E. K. Snyder,Sep. 01, 2016 "A non-parametric learning approach to identify online human trafficking," IEEE Xplore,. https://ieeexplore.ieee.org/abstract/document/7745456

[26]R. B. Zeid, J. Moubarak, and C. Bassil,Jun.2020, "Investigating The Darknet," 2020 International Wireless Communications and Mobile Computing (IWCMC),
 DOI: https://doi.org/10.1109/iwcmc48107.2020.9148422.

[27]S. Nikoletos and P. Raftopoulou,2022,"Employing social network analysis to dark web communities," IEEE Xplore, Jul. 01,.
 DOI: https://ieeexplore.ieee.org/document/9850325

[28]April-2019"A Research Paper on Dark Web", International Journal of Emerging Technologies and Innovative Research (www.jetir.org), ISSN:2349-5162, Vol.6, Issue 4, page no.322-327,
 Available :http://www.jetir.org/papers/JETIREQ06074.pdf