



# GUIDE

## Introduction To Open-Source Intelligence Tools

Q4 2019

[www.datawalk.com](http://www.datawalk.com)

## Introduction

All over the world, agencies incorporate publicly accessible data from the Internet - Open Source Intelligence, or "OSINT" - in their investigations. Through a number of techniques, it's possible to use OSINT to uncover unwitting traces left by criminals. Currently available tools make it possible to identify the true identities of Internet users, and define their patterns of life or connections with other users. However, what is crucial here is to quickly combine collected OSINT data with your other data, putting it in context as well as verifying circumstantial evidence.

This document is a brief guide to present selected, practical OSINT tools that will help you in your everyday work. However, it is necessary to bear in mind that the world of OSINT tools is constantly changing, and the tools that work effectively in a particular area today may turn out to be of no use tomorrow, as a few examples show below.

Recently there have been many changes in the OSINT world. Social media services have made the discovery of information increasingly difficult, with June 2019 being an exceptionally challenging month because of new restrictions on Facebook Graph. Facebook discontinued the Graph Search capability. Even though it wasn't removed entirely it limited access to Facebook data by ordinary users. In the

last few months we also have been observing how EU-based GDPR and other US-based regulations affect OSINT capabilities, even though law enforcement use has a different legal framework for dealing with personal data. Further, one of the most common OSINT services run by Michael Bazzell shut down the free tool section of his website inteltechniques.com, including the Facebook investigative tools that were powered by the Graph Search feature. This section still exists for paid subscribers to Bazzell's services. Similarly, the popular people search service pipl.com announced that it would close its free service, though a paid premium service is still available.

In addition to OSINT tools for the world wide web, in this guide we'll also discuss the "Dark Net" where criminals trade in illegal goods and services. At the end of this guide you will find a two-page cheat-sheet which you can print and then hang on the wall as a handy reference. Please note that each tool listed includes a link to its website.

DataWalk Team  
info@datawalk.com

*"Successful investigations require fast, efficient, and adaptable methods to combine data from different sources and the use of intuitive visualization to efficiently spot patterns and trends."*

**Chris Westphal** - Chief Analytics Officer, DataWalk

*"OSINT typically enables profiling people and companies to understand the real motives, but sometimes it only gives an outline of certain possibilities or hypotheses."*

**Jakub Karmowski** - OSINT Expert



# Multi-Search Engines

# Multi-Search Engines

Use free tools below to query multiple search engines simultaneously

Highly recommended

intelx.io/tools

Search

Highly recommended

osintframework.com

Search

Highly recommended

cyber-cops.com/investigation-tools

Search

Highly recommended

google.com/  
advanced\_search

The most classic of advanced search engines. Allows you to do advanced Google searches without using separate queries. Many powerful capabilities here with Advanced Search!

Highly recommended

https://yandex.com

Yandex Search is a web search engine. Yandex Search also features "parallel" search that presents results from both main web index and specialized information resources, including news, shopping, blogs, images and videos on a single page.

baidu.com

Baidu offers various services, including a Chinese search engine, as well as a mapping service called Baidu Maps. Baidu offers about 57 search and community services, such as Baidu Baike (an online encyclopedia) and a keyword-based discussion forum.

Highly recommended

bing.com

Bing is a web search engine owned and operated by Microsoft. Bing provides a variety of search services, including web, video, image and map search products.

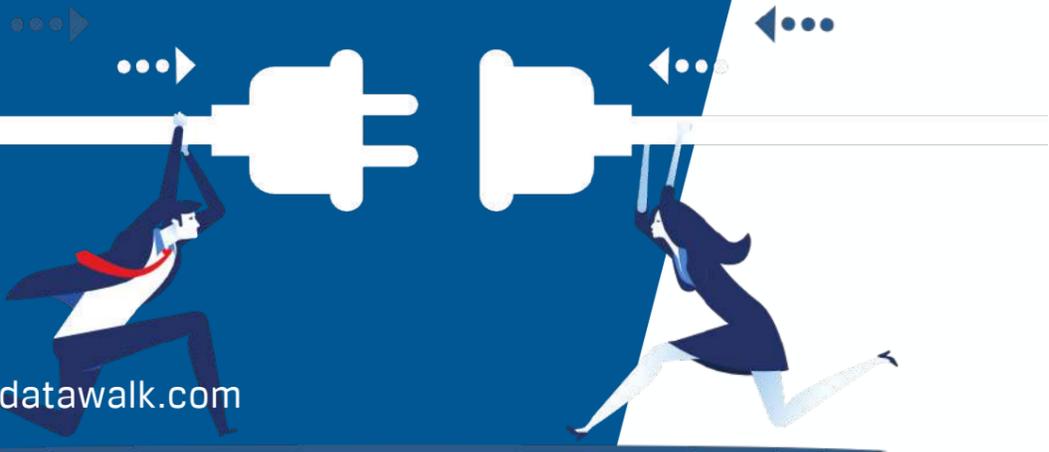
qwant.com

Qwant is a European web search engine. The website processes well over 10 million search requests per day and over 50 million individual users a month worldwide.

Highly recommended

ahmia.fi

Search engine for websites available on the Tor network, for sources that are commonly known as DeepWeb or darknet. Ahmia provides hidden content not only to Tor users.





# Metasearch Engines

# Metasearch Engines

Metasearch engines simultaneously send queries to other search engines and aggregate and summarize results.

Highly recommended  
etools.ch

Highly recommended  
zapmeta.com

Highly recommended  
alltheinternet.com

Highly recommended  
myallsearch.com

Highly recommended  
all-io.net/

Highly recommended  
webcrawler.com

Highly recommended  
searchall.net

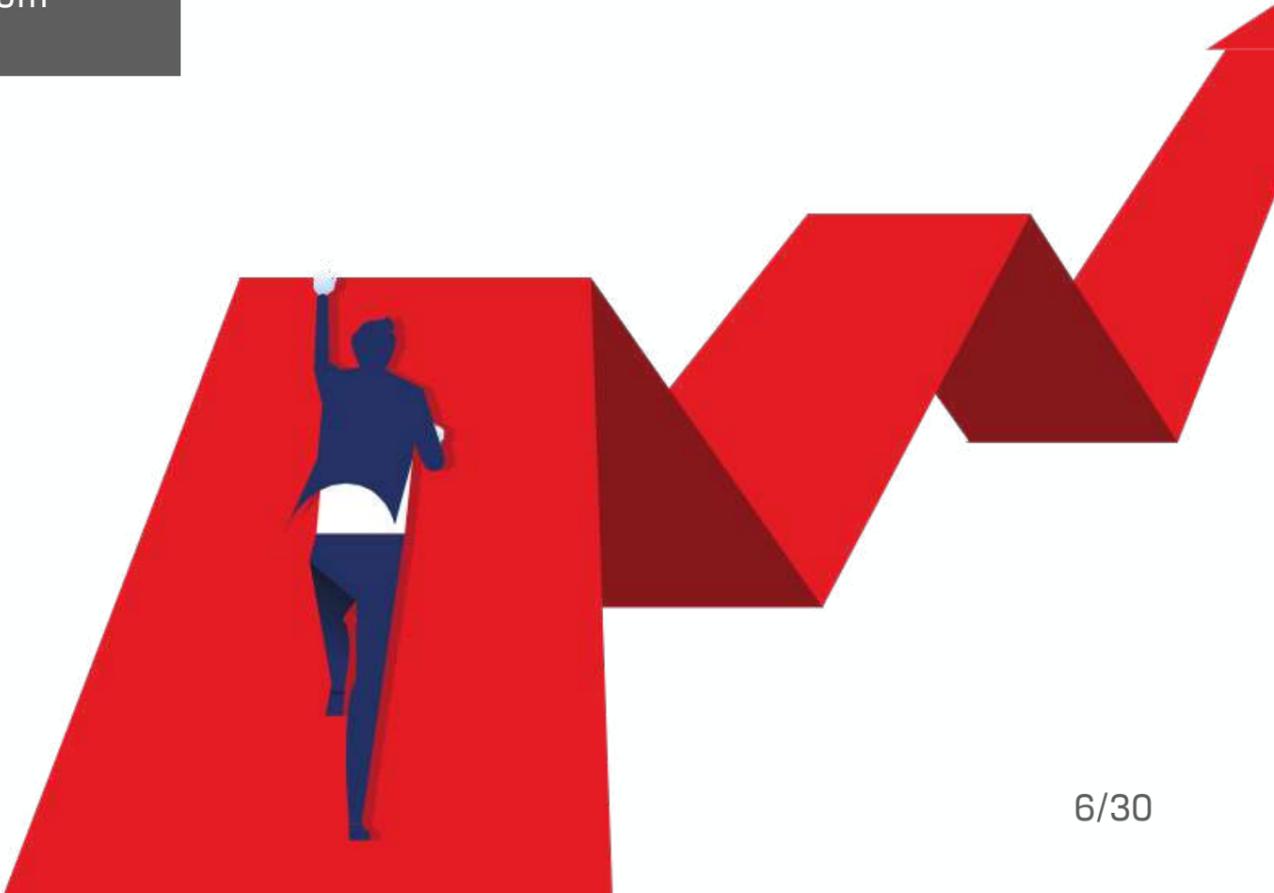
Highly recommended  
instya.com

Highly recommended  
infospace.com

Highly recommended  
duckduckgo.com

Highly recommended  
search.carrot2.org

*Note that in this guide we present only a sample of available tools. The success of your searches depends on defining the purpose of your search, the choice of tool, and your imagination!*





# Social Media Search Engines

Various tools are available to help you find information on particular people, users, ID numbers, trends, keywords, mutual acquaintances, visited places, and "likes" on social networks.

# Social Media Search Engines

Highly recommended

[social-searcher.com](https://social-searcher.com)

Free browser of social media, without logging in.

Highly recommended

[wiki.kenburbary.com/social-media-monitoring-wiki](https://wiki.kenburbary.com/social-media-monitoring-wiki)

The set of free and paid tools to monitor social media content and users activities.

Highly recommended

[shadowdragon.io](https://shadowdragon.io)

ShadowDragon is a cybersecurity solutions developer that simplifies complex multi-technology, multi-environment digital investigations with easy-to-use tools.

Highly recommended

[hashatit.com](https://hashatit.com)

Everywhere on social media, content is being generated at unheard of speeds. Hashtags help you navigate the ever-expanding internet, and HASHATIT keeps you on top of hashtags.

Highly recommended

[twitterfall.com](https://twitterfall.com)

Twitterfall is a web-based Twitter client where tweets fall down the screen like a waterfall. Twitterfall takes advantage of Twitter's search trends, which reveal the topics that are currently most popular and most discussed at that time.

Highly recommended

[socialbearing.com](https://socialbearing.com)

Twitter analytics. You can use this to find, filter and sort tweets or search/filter by influence, engagement, sentiment, location and more. Also statistics for accounts are available.

Highly recommended

[twitonomy.com](https://twitonomy.com)

Browse, search, filter and get insights on the people you follow and those who follow you. Backup/export tweets, retweets, mentions and reports to Excel & PDF.

Highly recommended

[followerwonk.com](https://followerwonk.com)

Followerwonk helps you explore and grow your social graph. Dig deeper into Twitter analytics: Who are your followers? Where are they located and so forth.

Highly recommended

[tweetbeaver.com](https://tweetbeaver.com)

TweetBeaver gathers the data you need quickly, simply and easily. This works at a granular level, digging out the information you need from your or any other public account. It can gather data on any non-private account and returns most searches as a csv.

Highly recommended

[omnisci.com](https://omnisci.com)

OmniSci is a GPU (Graphics Processor Unit)-powered database and visualization platform designed for lightning-fast, immersive data exploration that eliminates the disconnect between analyst and data.

Highly recommended

[unionmetrics.com](https://unionmetrics.com)

Free Twitter analytics. Quick answers to your biggest Twitter questions with our free snapshot report. Analyze recent conversations about anything on Twitter - your account, your competitors, a campaign, a hashtag, a trend, a Tweet.

Highly recommended

[hashtagify.me](https://hashtagify.me)

Hashtagify is one of the most advanced Twitter hashtag tracking tools. It allows you to find the best hashtags to reach your audience, gives you custom suggestions, and helps you getting to know your users better.

Highly recommended

[spoonbill.io](https://spoonbill.io)

Spoonbill lets you see profile changes from the people you follow on Twitter. Keep updated on your friends' and family members' bios, websites, locations, and names.

Highly recommended

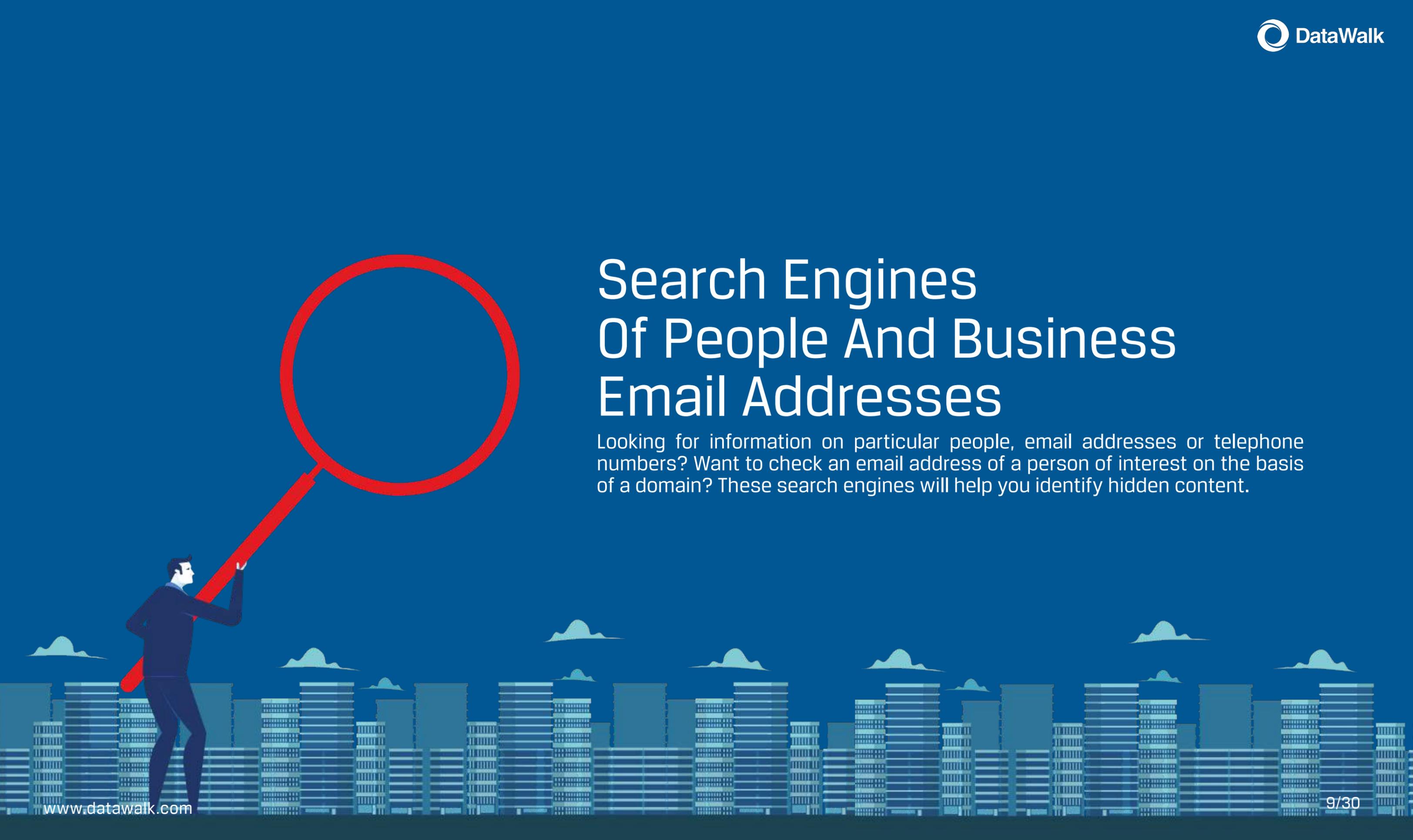
[feed.exileed.com](https://feed.exileed.com)

RSS for Twitter.

Highly recommended

[talkwalker.com](https://talkwalker.com)

The real-time FREE social media search engine.



# Search Engines Of People And Business Email Addresses

Looking for information on particular people, email addresses or telephone numbers? Want to check an email address of a person of interest on the basis of a domain? These search engines will help you identify hidden content.

# Search Engines Of People And Business Email Addresses

Highly recommended

spokeo.com

A search engine of people and a catalog of telephone numbers, email addresses and photos. Look for people by their surnames, email addresses, addresses and phones for free.

webmii.com

WebMii is a next-generation search engine: find all information on people and get an evaluation of their visibility in the web.

skymem.info

E-mail address search engine - searches 150 million records in a few seconds.

Highly recommended

connect.clearbit.com

Find any email in under five seconds.

Highly recommended

hunter.io

A solution for finding and verifying professional email addresses.

Highly recommended

voilanorbert.com

A comprehensive search engine for people. You can find a person on the basis of their email address.



# Search Engines Of Domains, Emails And IP Registry

Looking for information on particular domains or IP addresses?  
Take advantage of search engines for exploration and investigation.

# Search Engines Of Domains, Emails And IP Registry

Highly recommended

hexillion.com

Tools for investigating, exploring, and troubleshooting Internet addresses such as domain names, IP addresses, email addresses, and URLs.

Highly recommended

whois.net

Whois Lookup – Domain Names Search, Registration and Availability.

Highly recommended

website.informer.com

Get a quick aggregated view of everything the Web can promptly tell you about a site (domain), including its daily visitors, safety status, Alexa rank, owners and much more.

Highly recommended

myip.ms

Find Hosting Company On Any Website / Owner on Any IP Address.

Highly recommended

viewdns.info

To check DNS from websites.

Highly recommended

builtwith.com

BuiltWith technology tracking includes widgets, analytics, frameworks, content management systems, advertisers, content delivery networks, web standards and web servers to name some of the technology categories we cover.

Highly recommended

urlscan.io

Urlscan.io is a service to scan and analyse websites. When a URL is submitted to urlscan.io, an automated process will browse to the URL like a regular user and record the activity that this page navigation creates.

Highly recommended

censys.io

With full visibility over your entire attack surface in near real time, you can regularly monitor and mitigate risks to prevent unnecessary exposures.

These are tools that search the web for domain names, IP addresses, email addresses, and URLs. These tools process and combine information from various public sources, such as Whois, DNS records and web pages.

To visualize complexity of domains use:

 <http://www.visualsitemapper.com/>

To search for similar websites use:

 <http://analyzeid.com/>



# Deep reconnaissance

## Deep reconnaissance

Highly recommended

[spiderfoot.net](https://spiderfoot.net)

SpiderFoot is a reconnaissance tool that automatically queries over 100 public data sources (OSINT) to gather intelligence on IP addresses, domain names, e-mail addresses, names and more.

Highly recommended

[spiderfoot.net/hx/](https://spiderfoot.net/hx/)

Automatically scan targets according to a daily, weekly or monthly schedule and get notified when changes in their OSINT footprint are detected.

# Other OSINT Tools



## Other OSINT Tools

mxtoolbox.com

This test will display a list of MX records (IP addresses) for a domain according to priority. You can click Diagnosis to connect to a mail server, verify reverse DNS records, perform a simple Open Relay test and check the response time. Also, you can check each MX record against 105 blacklists based on DNS.

Highly recommended

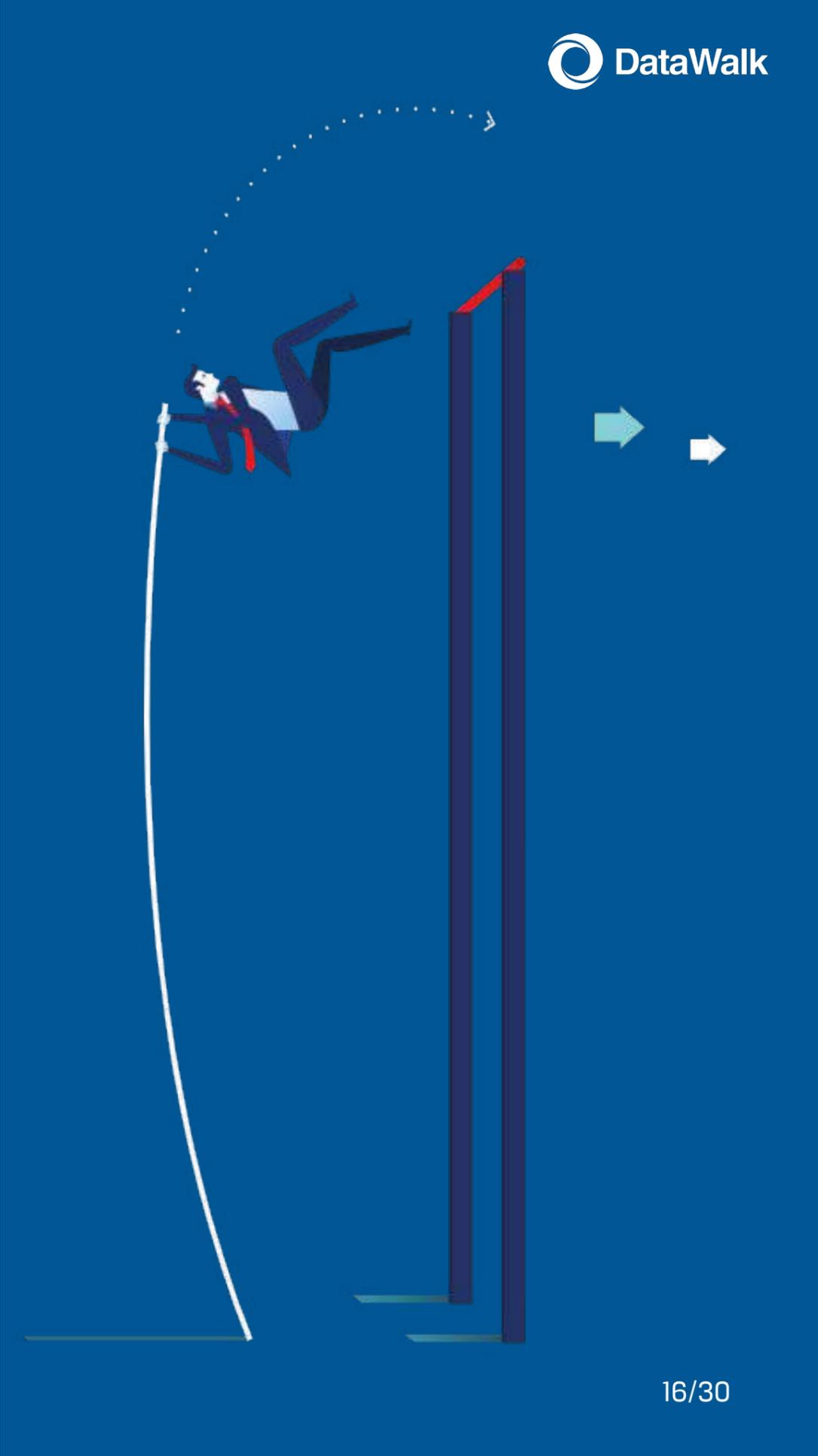
namechk.com

Enter a user name and click one button to check if the name is already in use, across dozens of social networking sites. In addition, check the availability of domains of this name. Forget the painstaking task of visiting each site to check; with namechk you can easily get a condensed result for free.

Highly recommended

archive.org

This archive of internet content enables you to search archival versions of web pages (a "wayback machine"). Thanks to this you have access to unique archival information, e.g., bank accounts, phone numbers, e-mail addresses, and also images and other content that can provide context of the case under investigation.



## Other OSINT Tools

[similarsites.com](https://similarsites.com)

Want to find similar websites? Just enter a domain name and you will immediately get information about services with similar content. You can check websites visited by other users and keywords they were looking for. Also, you will find out if a website of interest is active and how much time users spend there on average.

Highly recommended

[debouncer.com](https://debouncer.com)

Debouncer checks for the occurrence of IP addresses and mail server domains on blacklists, based on DNS (DNSBL lub RBL).

Highly recommended

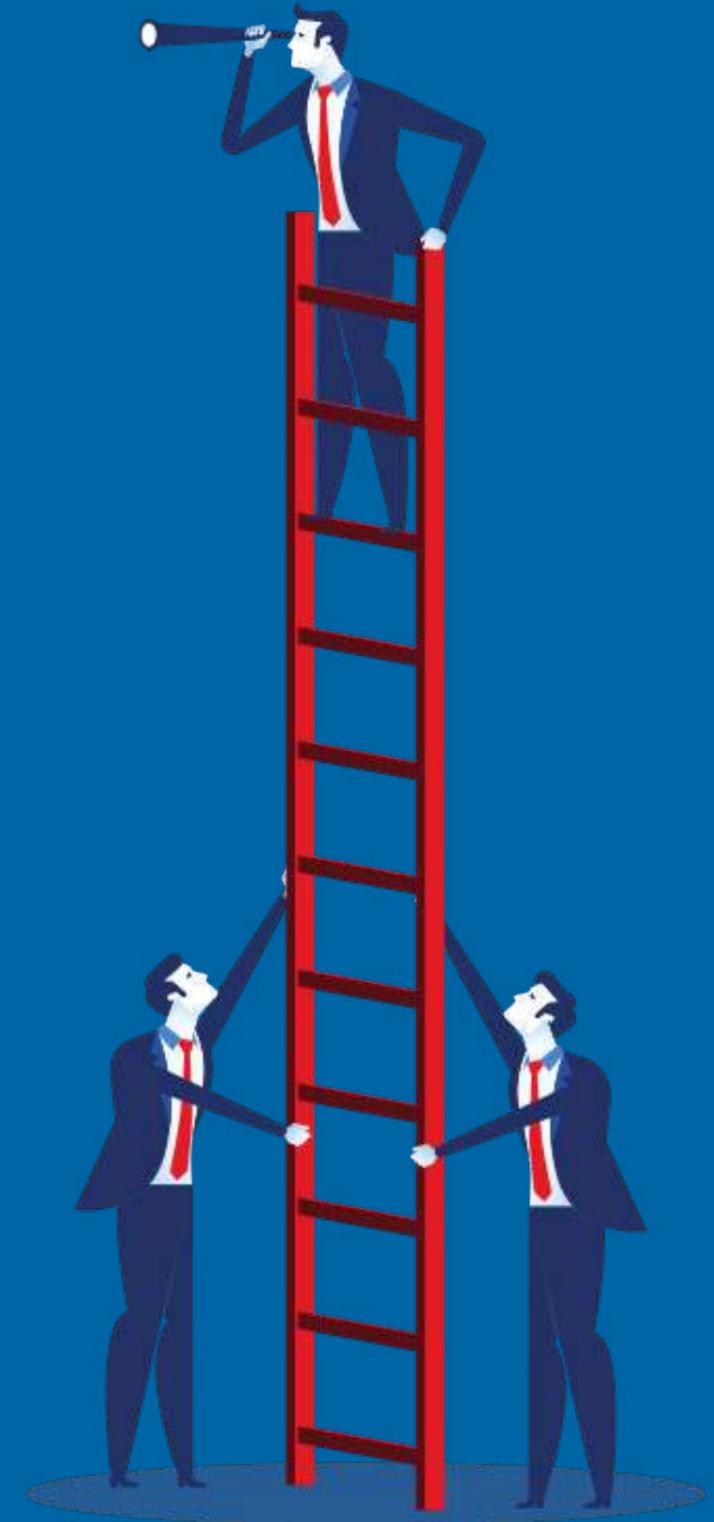
[viewdns.info/reverseip](https://viewdns.info/reverseip)

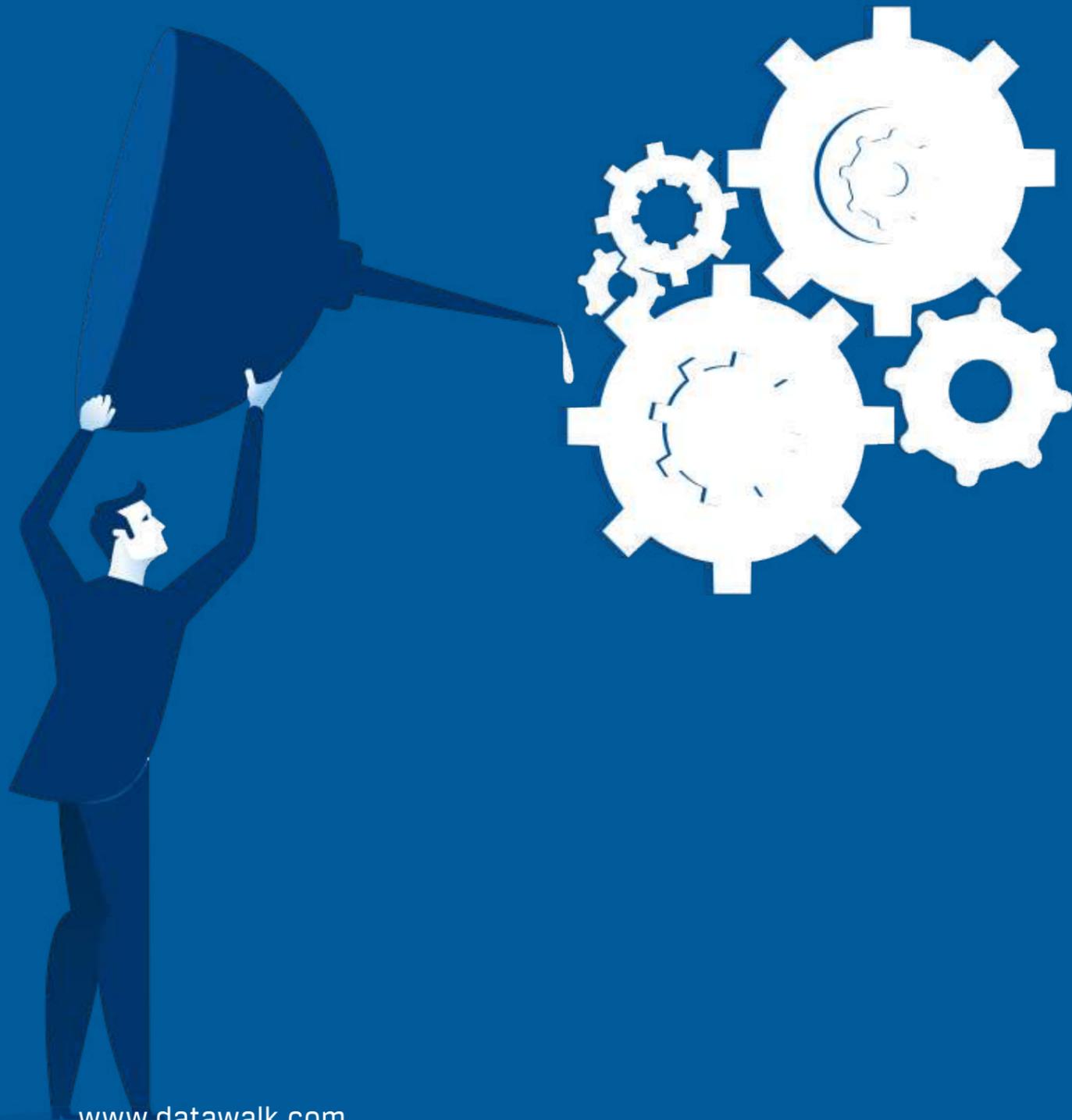
Takes a domain or IP address and does a reverse lookup to quickly show all other domains hosted from the same server. Useful for finding phishing sites or identifying other sites on the same shared hosting server.

Highly recommended

[oryon.net](https://oryon.net)

The Oryon OSINT Browser is a web browser designed to help investigators conduct Open Source Intelligence investigations. Oryon offers dozens of pre-installed tools and a selected set of categorized links.





# Web Scrapers

If you want to download large amounts of data from particular web sites for further analysis, here are some tools that can help.

# WEB SCRAPERS

Highly recommended

[webscraper.io](https://www.webscraper.io)

When used as an extension to a browser (e.g., Chrome), Webscraper.io enables you to create a map of a website so that you can decide which data should be extracted. Scanned data can be exported to a CSV file.

[octoparse.com](https://octoparse.com)

Octoparse is a powerful web scraper which is easy to use. It can work with both static and dynamic websites by means of AJAX, JavaScript, cookies, etc. You can download an installer and run a data download task on any website, even if the website is paginated or requires logging-in.

[data-miner.io](https://data-miner.io)

A very easy to use Chrome extension that enables you to scan data from tables and lists on separate pages to CSV or XLS files.



# Cryptocurrency Analysis And Lookup

# Cryptocurrency analysis and lookup

Highly recommended

[xmrhunter.com](http://xmrhunter.com)

This site is intended for Security Analysts who want to gain a quick insight into the scale of a Mining operation (Monero).

Highly recommended

[blockchain.com/explorer](http://blockchain.com/explorer)

A real-time search engine of Bitcoin, Ethereum, Bitcoin Cash. You can search for wallets addresses, transaction and blocks.

Highly recommended

[walletpal.com](http://walletpal.com)

Bitcoin block explorer with address grouping and wallet labeling.

Highly recommended

[moneroblocks.info](http://moneroblocks.info)

Monero blockchain explorer - XMR blocks, transactions, payment ids, hashrate, emission. They show it all.

Highly recommended

[bitcoinwhoswho.com](http://bitcoinwhoswho.com)

Check a bitcoin address to see if it has been connected to scam alerts.



# The Deep Web And The Dark Web

Most people have access to only the indexed World Wide Web (www) which is only perhaps 6% of all content published on the Internet. The most popular search engine for this is Google.

So what is beyond the indexed horizon?

# The Deep Web And The Dark Web

## Deep Web

The deep web is part of the World Wide Web whose contents are not indexed by standard web search engines. There are many common examples of deep web sources, such as private content on social media sites like Facebook and Twitter, as well as email messages, chat messages, electronic bank statements, electronic health records (EHRs), etc. There are tools (e.g., IntelTechniques) that allow access to some of this information.

Highly recommended

[hiddenwikitor.com](http://hiddenwikitor.com)

Hidden Wiki Deep Web links

Highly recommended

[ahmia.fi](http://ahmia.fi)

Ahmia searches hidden services on the Tor network

Highly recommended

[onionlandsearchengine.com](http://onionlandsearchengine.com)

Discover Hidden Services and access to Tor's onion sites

## Dark Web

The Dark Web is much smaller than the Deep Web and includes websites that sell drugs, weapons and even services of assassins. These are hidden networks avoiding their presence on the openSurface Web, and its URLs end with .onion. These .onion domains are not indexed by regular search engines, so you can only access Dark Web content with special software called "The Onion Browser," referred to as TOR.

## World Wide Web

Only about from 1% to 6% of the content on the Internet is openly available and indexed by search engines such as Google.



## Deep Web

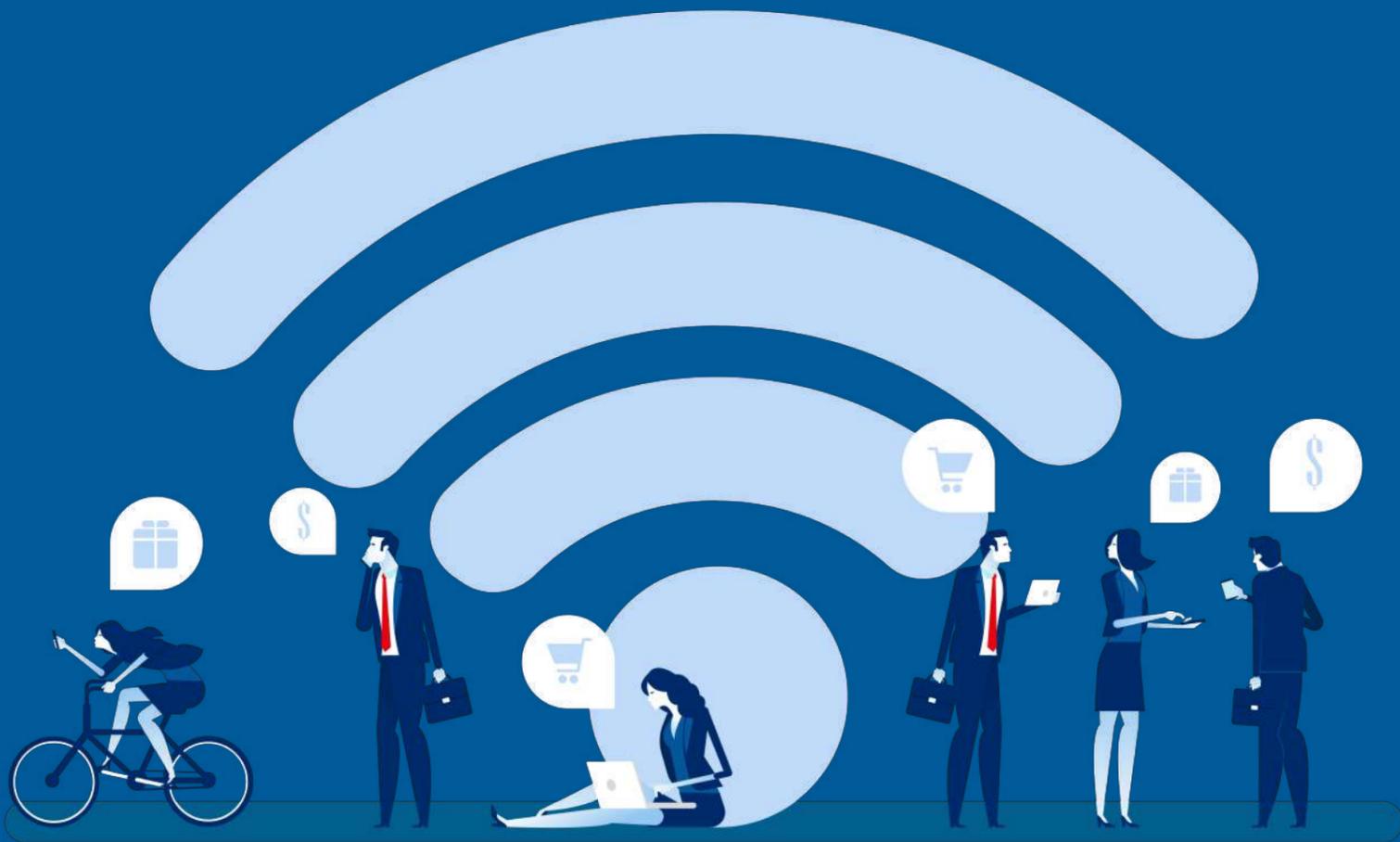
Over 90% of the information on the Internet is in the deep web (e.g., password protected) and is not accessible by search engines.

7.9  
**Zettabytes**

## Dark Web

The dark web consists of websites that use the public internet, but require specific software for access and are not indexed by search engines to ensure anonymity. Here stolen data is traded, sold and used for financial, political or personal gain.





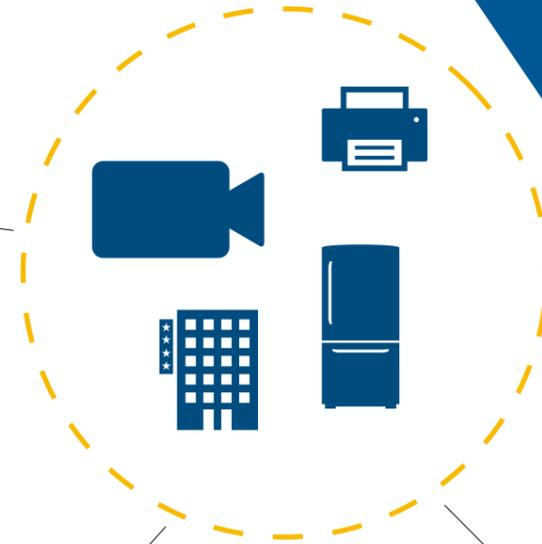
# Internet of Things

Search Engines for the Internet of Things

Highly recommended

zoomeye.org

Cyberspace Search Engine recording information of devices, websites, services and components.



IoT

Highly recommended

thingful.net

A Search Engine for the Internet of Things. Find & use open IoT data from around the world.

Highly recommended

shodan.io

Shodan is a search engine of devices connected to the Internet (i.e., IoT). Find video cameras, buildings and other devices connected to the web.

Highly recommended

iotscanner.bullguard.com

Check if your internet-connected devices at home are public on Shodan. If they are, this means they are accessible to the public, and hackers.



Combine your data with OSINT data to detect operations and spot targets.

**DataWalk is a next-generation software platform for rapid data blending, analysis, and investigations.**

DataWalk is designed to deliver intelligence led-investigations where the results are more timely, complete, and consistent by gathering all information related to any investigation. DataWalk connects to a wide array of external sources to perform "federated" searches from a single, easy-to-use interface. With DataWalk federated search, connections to third-party data save you considerable time as they eliminate the need to log-in to multiple systems to query and copy results, and help enable complete and accurate analyses conducted reliably in less time with fewer resources.

Example integrations with OSINT subscription services available in DataWalk.



**webhose.io**



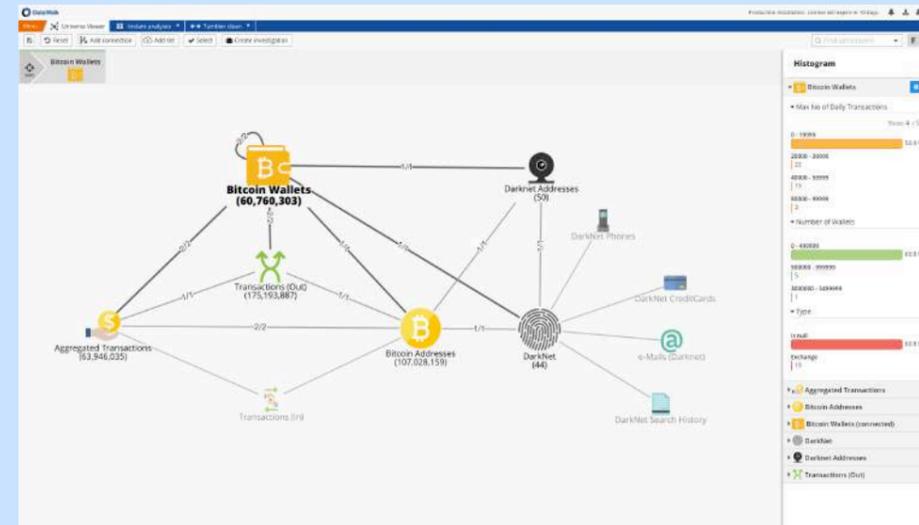
SHADOW DRAGON

**BLOCKCHAIN**



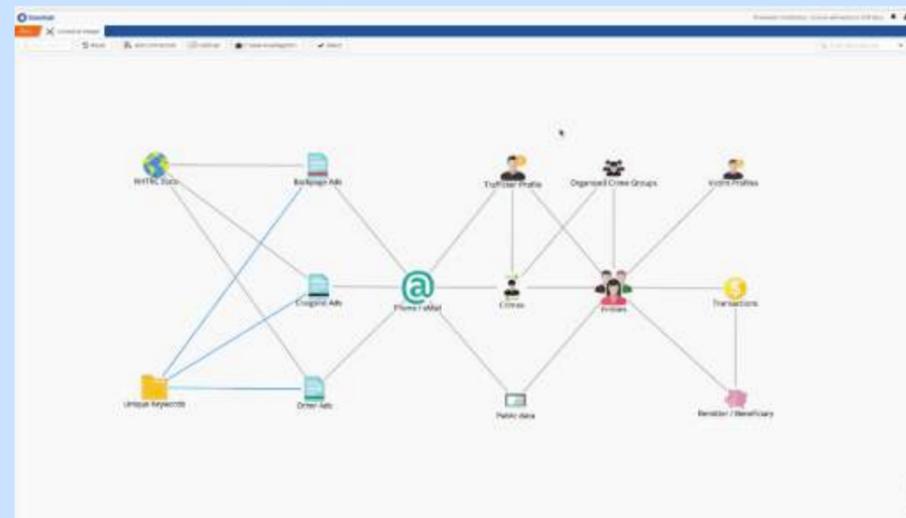
### Example scenario (Video): Cryptocurrency analysis

Easily check bitcoin wallets, instantly track their transactions, and gain insights via darknet to identify bad actors and beneficial owners.



### Example scenario (Video): Human Trafficking

Leveraging indicators of human trafficking from online ads and using DataWalk risk scoring to combine indicators with other internal and external data sources to rank the suspects.



# OSINT Cheat-Sheet - Page 1

Multi-Search Engines		Mark your favorite
Advanced search capabilities.	<a href="https://google.com/advanced_search">google.com/advanced_search</a>	
	<a href="https://yandex.com">yandex.com</a>	
	<a href="https://baidu.com">baidu.com</a>	
	<a href="https://bing.com">bing.com</a>	
	<a href="https://bvsg.org">bvsg.org</a>	
	<a href="https://qwant.com">qwant.com</a>	

Internet of Things		Mark your favorite
Find video cameras, buildings and other devices connected to the web.	<a href="https://zoomeye.org">zoomeye.org</a>	
	<a href="https://shodan.io">shodan.io</a>	
	<a href="https://thingful.net">thingful.net</a>	
	<a href="https://iotscanner.bullguard.com">iotscanner.bullguard.com</a>	

Metasearch engines		Mark your favorite
Search tools that query multiple search engines and organize the results.	<a href="https://etools.ch">etools.ch</a>	
	<a href="https://all-io.net/">all-io.net/</a>	
	<a href="https://duckduckgo.com">duckduckgo.com</a>	
	<a href="https://zapmeta.com">zapmeta.com</a>	
	<a href="https://webcrawler.com">webcrawler.com</a>	
	<a href="https://search.carrot2.org">search.carrot2.org</a>	
	<a href="https://alltheinternet.com">alltheinternet.com</a>	
	<a href="https://searchall.net">searchall.net</a>	
	<a href="https://infospace.com">infospace.com</a>	
	<a href="https://myallsearch.com">myallsearch.com</a>	
	<a href="https://instya.com">instya.com</a>	
	<a href="https://alltheinternet.com">alltheinternet.com</a>	

Deep reconnaissance		Mark your favorite
Gather intelligence on IP addresses, domain names, e-mail addresses, names and more.	<a href="https://spiderfoot.net">spiderfoot.net</a>	
	<a href="https://spiderfoot.net/hx/">spiderfoot.net/hx/</a>	

Social Media Search Engines		Mark your favorite
Extract and analyze information for social media sites.	<a href="https://social-searcher.com">social-searcher.com</a>	
	<a href="https://twitterfall.com">twitterfall.com</a>	
	<a href="https://shadowdragon.io">shadowdragon.io</a>	
	<a href="https://hashatit.com">hashatit.com</a>	
	<a href="https://twitterfall.com">twitterfall.com</a>	
	<a href="https://twitterfall.com">twitterfall.com</a>	
	<a href="https://socialbearing.com">socialbearing.com</a>	
	<a href="https://twitonomy.com">twitonomy.com</a>	
	<a href="https://followerwonk.com">followerwonk.com</a>	
	<a href="https://tweetbeaver.com">tweetbeaver.com</a>	
	<a href="https://omnisci.com">omnisci.com</a>	
	<a href="https://unionmetrics.com">unionmetrics.com</a>	
	<a href="https://hashtagify.me">hashtagify.me</a>	
	<a href="https://spoonbill.io">spoonbill.io</a>	
	<a href="https://feed.exileed.com">feed.exileed.com</a>	
<a href="https://talkwalker.com">talkwalker.com</a>		

## OSINT Cheat-Sheet - Page 2

<b>Search Engines Of People And Business Email Addresses</b>	<b>Mark your favorite</b>
<p>Looking for information on particular people, email addresses or telephone numbers? Want to check an email address of a person of interest on the basis of a domain? These search engines will help you identify hidden content.</p>	<a href="https://www.spokeo.com">spokeo.com</a>
	<a href="https://www.webmii.com">webmii.com</a>
	<a href="https://www.skymem.info">skymem.info</a>
	<a href="https://connect.clearbit.com">connect.clearbit.com</a>
	<a href="https://hunter.io">hunter.io</a>
	<a href="https://voilanorbert.com">voilanorbert.com</a>

<b>Cryptocurrency analysis and lookup</b>	<b>Mark your favorite</b>
<p>Search for wallets, addresses and transactions in the cryptocurrency world.</p>	<a href="https://blockchain.com/explorer">blockchain.com/explorer</a>
	<a href="https://moneroblocks.info">moneroblocks.info</a>
	<a href="https://xmrhunter.com">xmrhunter.com</a>
	<a href="https://walletexplorer.com">walletexplorer.com</a>
	<a href="https://bitcoinwhoswho.com">bitcoinwhoswho.com</a>

<b>Search Engines Of Domains, Emails And IP Registry</b>	<b>Mark your favorite</b>
<p>Looking for information on particular domains or IP addresses? Take advantage of search engines for exploration and investigation.</p>	<a href="https://hexillion.com">hexillion.com</a>
	<a href="https://whois.net">whois.net</a>
	<a href="https://website.informer.com">website.informer.com</a>
	<a href="https://myip.ms">myip.ms</a>
	<a href="https://viewdns.info">viewdns.info</a>
	<a href="https://builtwith.com">builtwith.com</a>
	<a href="https://urlscan.io">urlscan.io</a>
	<a href="https://censys.io">censys.io</a>

<b>Web Scrapers</b>	<b>Mark your favorite</b>
<p>If you want to download large amounts of data from particular web sites for further analysis, here are some tools that can help.</p>	<a href="https://data-miner.io">data-miner.io</a>
	<a href="https://octoparse.com">octoparse.com</a>
	<a href="https://webscraper.io">webscraper.io</a>

<b>The Deep Web And The Dark Web</b>	<b>Mark your favorite</b>
<p>Search for hidden services on the Tor network, and search for deep web links.</p>	<a href="https://hiddenwikator.com">hiddenwikator.com</a>
	<a href="https://ahmia.fi">ahmia.fi</a>
	<a href="https://onionlandsearchengine.com">onionlandsearchengine.com</a>

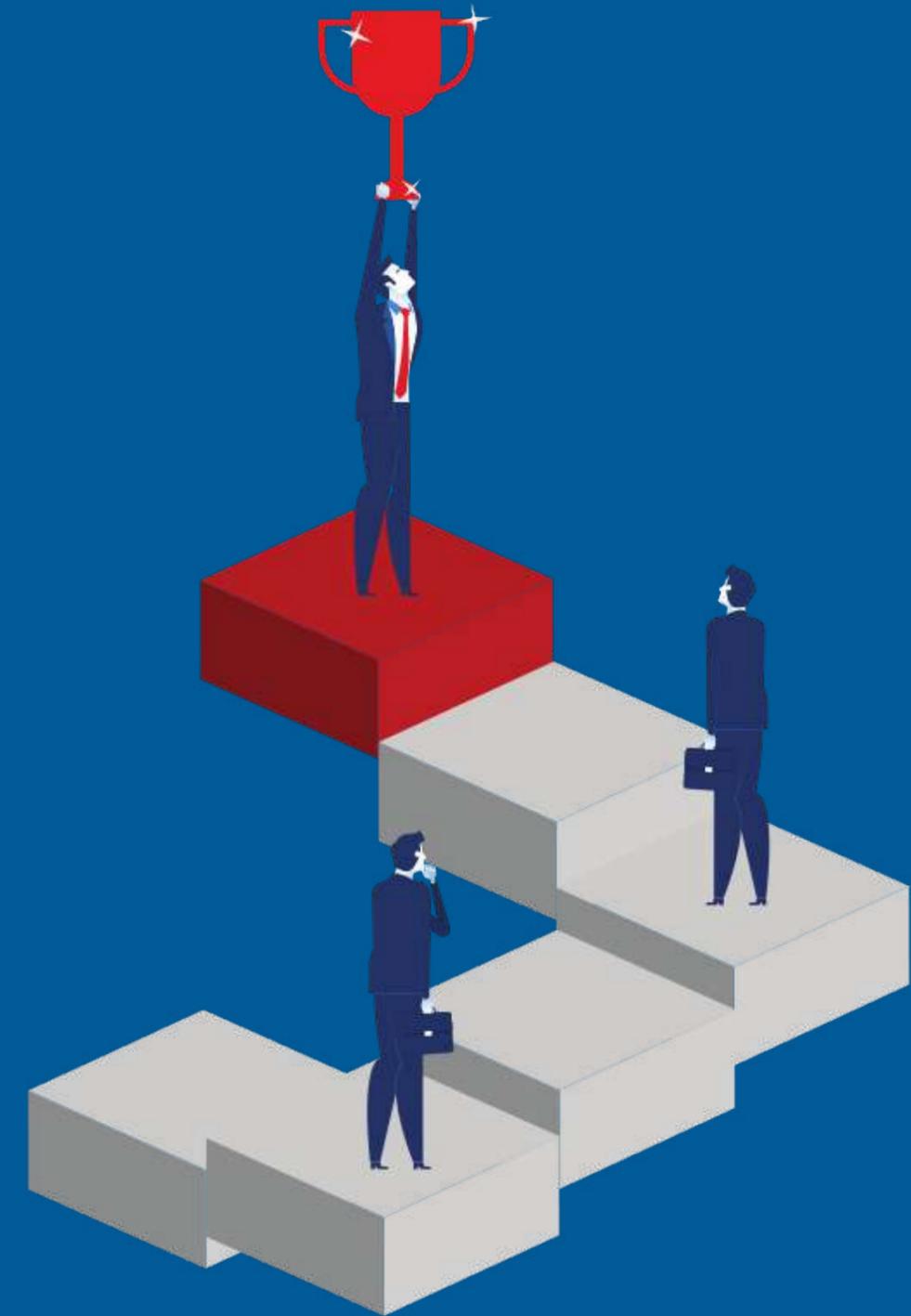
<b>Other OSINT Tools</b>	<b>Mark your favorite</b>
<p>Various capabilities such as previous versions of web sites, finding similar websites, etc.</p>	<a href="https://mxtoolbox.com">mxtoolbox.com</a>
	<a href="https://namechk.com">namechk.com</a>
	<a href="https://archive.org">archive.org</a>
	<a href="https://similarsites.com">similarsites.com</a>
	<a href="https://debouncer.com">debouncer.com</a>
	<a href="https://viewdns.info/reverseip">viewdns.info/reverseip</a>
<a href="https://oryon.net">oryon.net</a>	



DataWalk is a next-generation analytical platform which enables you to easily combine data from many different sources (including OSINT) for instant link analysis, geospatial analysis, visual querying, and collaborative investigations.

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For more information, visit [datawalk.com](https://datawalk.com), or contact us at [info@datawalk.com](mailto:info@datawalk.com).



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