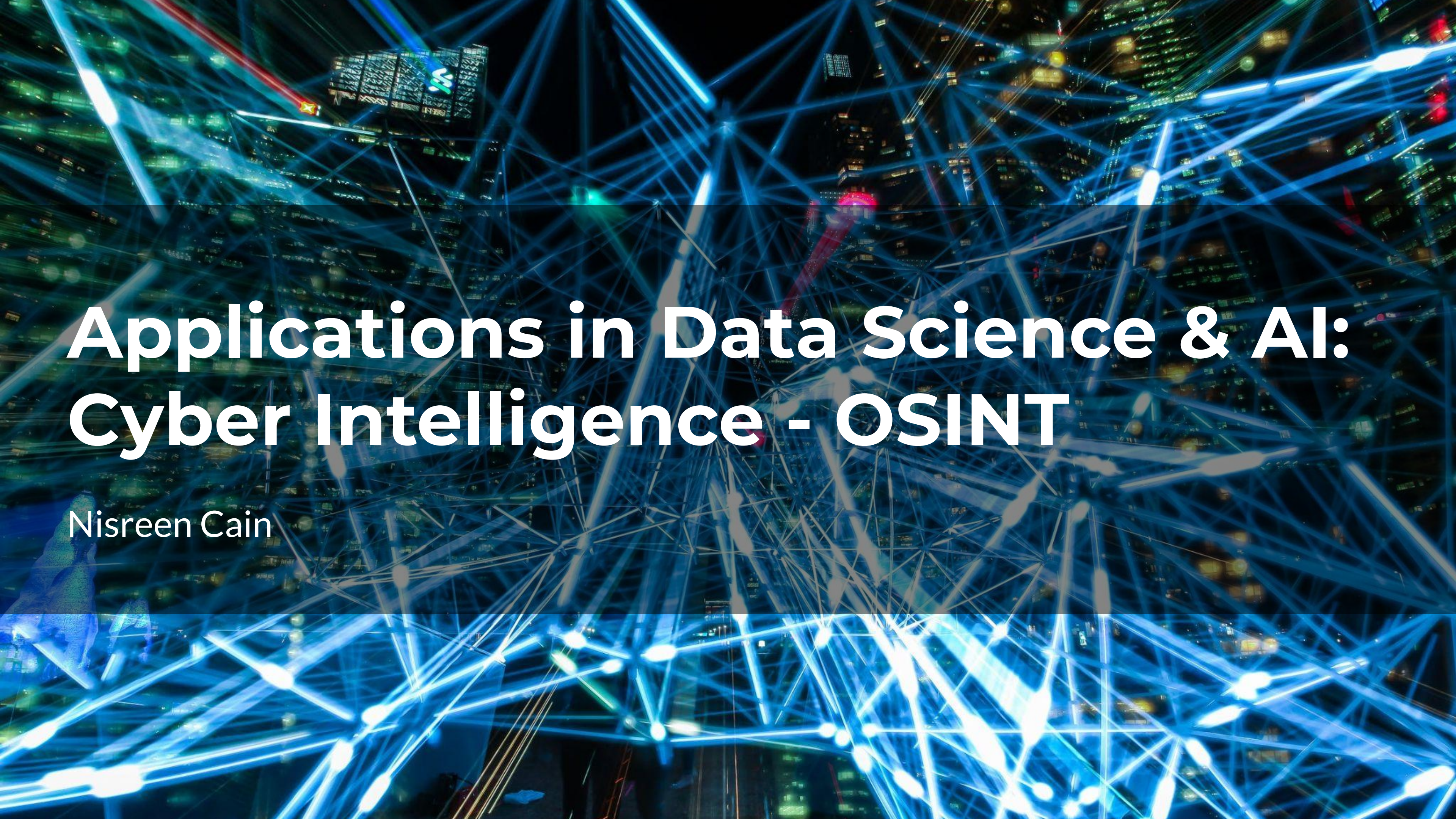


Applications in Data Science & AI: Cyber Intelligence - OSINT

Nisreen Cain

Key Concepts

Open Source Data

Open Source Intelligence

The Intelligence Process

Data Mining & Aggregation

AI/ML and the Intelligence Cycle

Use cases from the field

The road ahead

Disclaimer

Any Views or opinions presented in this presentation are solely mine and do not necessarily represent my employer.

- I am not a lawyer or giving you legal advice
- I am not giving you permission or authorizing you to do anything ever
- In fact don't do anything ever ;)

Open Source Data

- Published or broadcast for public consumption
- Is available on request to the public
- Is accessible online or otherwise to the public
- Is available to the public by subscription or purchase
- Could be seen or heard by any casual observer
- Is made available at a meeting open to the public
- Is obtained by visiting any place or attending any event that is open to the public

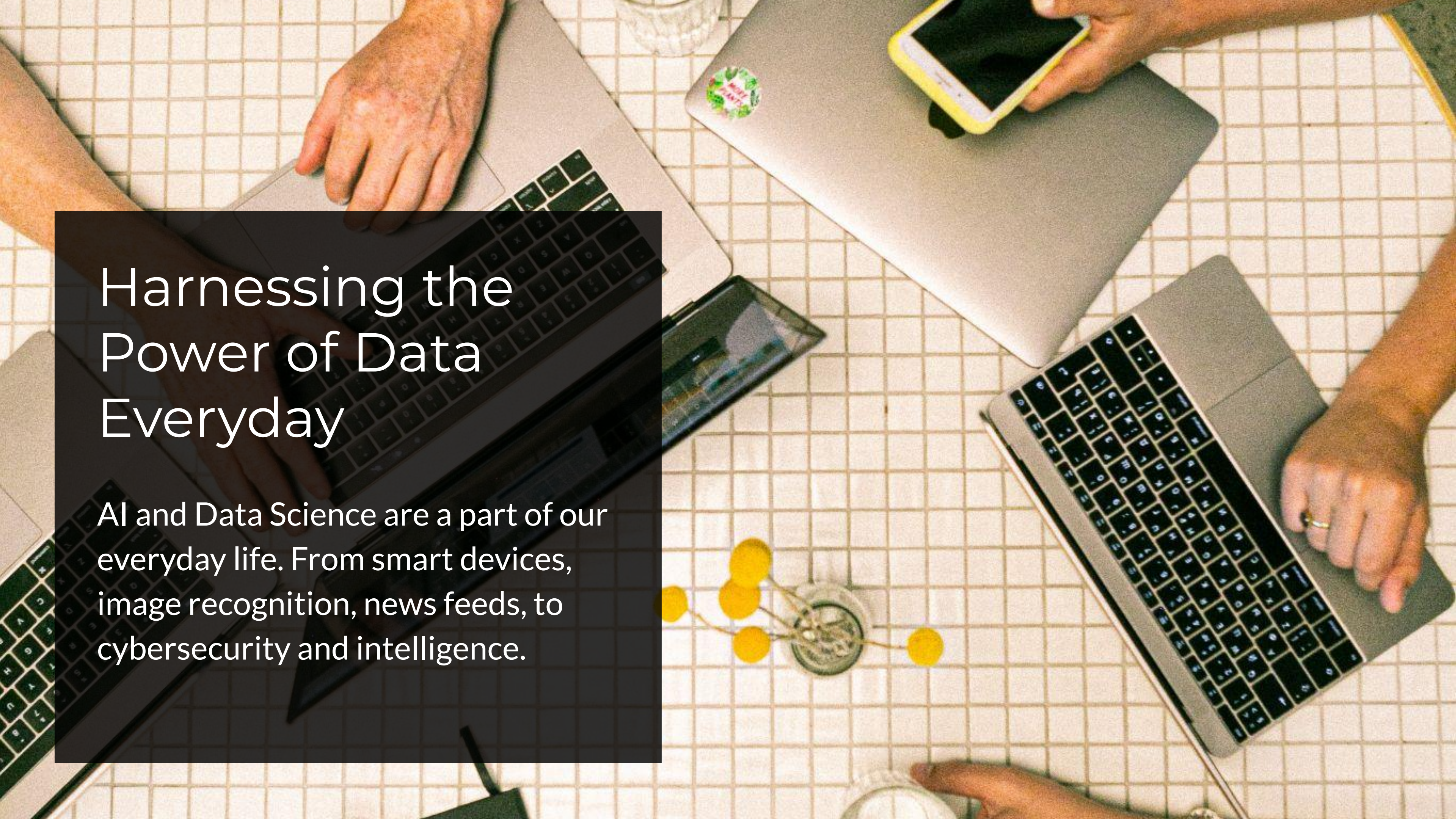
Source: Department of Defense Manual 5240.01
(August 2016)

Data is Power.

We are bombarded with a staggering amount of information from various online sources.

Hundreds of thousands of hours of videos, millions of images, more text than can be indexed by search engines; that doesn't include data behind restricted access.

"Data is a precious thing and it will last longer than the systems themselves." ~ Tim Berners Lee



Harnessing the Power of Data Everyday

AI and Data Science are a part of our everyday life. From smart devices, image recognition, news feeds, to cybersecurity and intelligence.

The industry demand is real

“Hirings for A.I. specialists on the career networking service have grown 74% annually over the past four years, LinkedIn said.” - Fortune.com 2019

Cyber Intelligence

The internet is the world's largest database of information and it's increasing exponentially

Need to leverage data mining and AI/ML to acquire, process, analyze, and identify threats and risks to enhance decision making across organizations

Open Source Intelligence (OSINT)

OSINT is the practice of data collection from **publicly** available sources such as social media, news outlets, blogs, websites, etc. This includes data mining and crawling techniques, data extraction and data analysis.

Open source indicates the nature of the data being collected. Doesn’t refer to Open Source Software or public intelligence

osint
open source intelligence

A vast haystack of visible data

- Social Media
- IP addresses
- Domain Lookup
- Reverse Image Search
- Phone numbers
- Online Documents
- Online listings
- Geolocations and images
- License Plates, etc
- Government resources - such as marriage licenses, deeds, court proceedings, etc
- … and more

Key Sectors

- Intelligence communities
- Law enforcement
- IT security professionals
- Private investigators
- Law firms
- Corporations
- Insurance companies
- Financial companies
- Red Teams (pen testers)
- Malicious hackers
- Terrorist groups

The Intelligence Process

1. Requirements
2. Planning and direction
3. Collection
4. Processing and exploitation
5. Analysis and production
6. Dissemination

OSINT Process

1. Identifying the source - where you can find the information
2. Harvesting the data - get relevant data from the source
3. Data processing - get meaning from the data
4. Analysis - joining data from different sources
5. Reporting

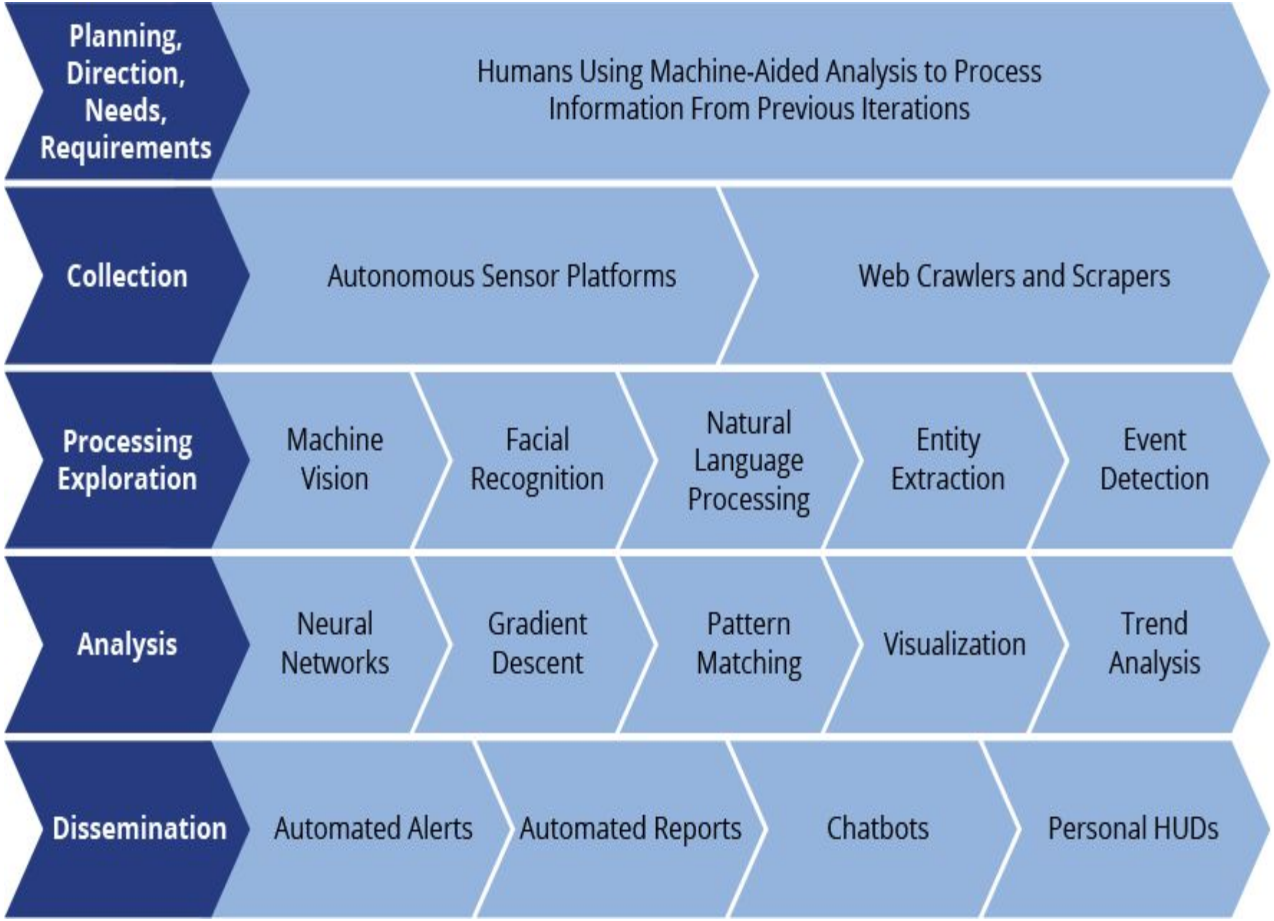
osint
open source intelligence

AI Use in the Intelligence Cycle

Moving form a manual process to automation partially or fully

Machine-Aided Analysis is vital especially that we work with real-world operations

Applies to data collection and analysis to AI-powered drones and training simulations



Planning, Direction, Needs, Requirements: Humans Using Machine-Aided Analysis to Process Information From Previous Iterations

Collection: Autonomous Sensor Platforms; Web Crawlers and Scrapers

Processing Exploration: Machine Vision; Facial Recognition; Natural Language Processing; Entity Extraction; Event Detection

Analysis: Neural Networks; Gradient Descent; Pattern Matching; Visualization; Trend Analysis

Dissemination: Automated Alerts; Automated Reports; Chatbots; Personal HUDs

Image source: https://www.recordedfuture.com/open-source-intelligence-future

Role of ML in the Process

“machine learning will perform this function automatically and iteratively train collection and analysis algorithms by figuring out what’s working and what isn’t based on AI-fueled analysis of massive data sets”

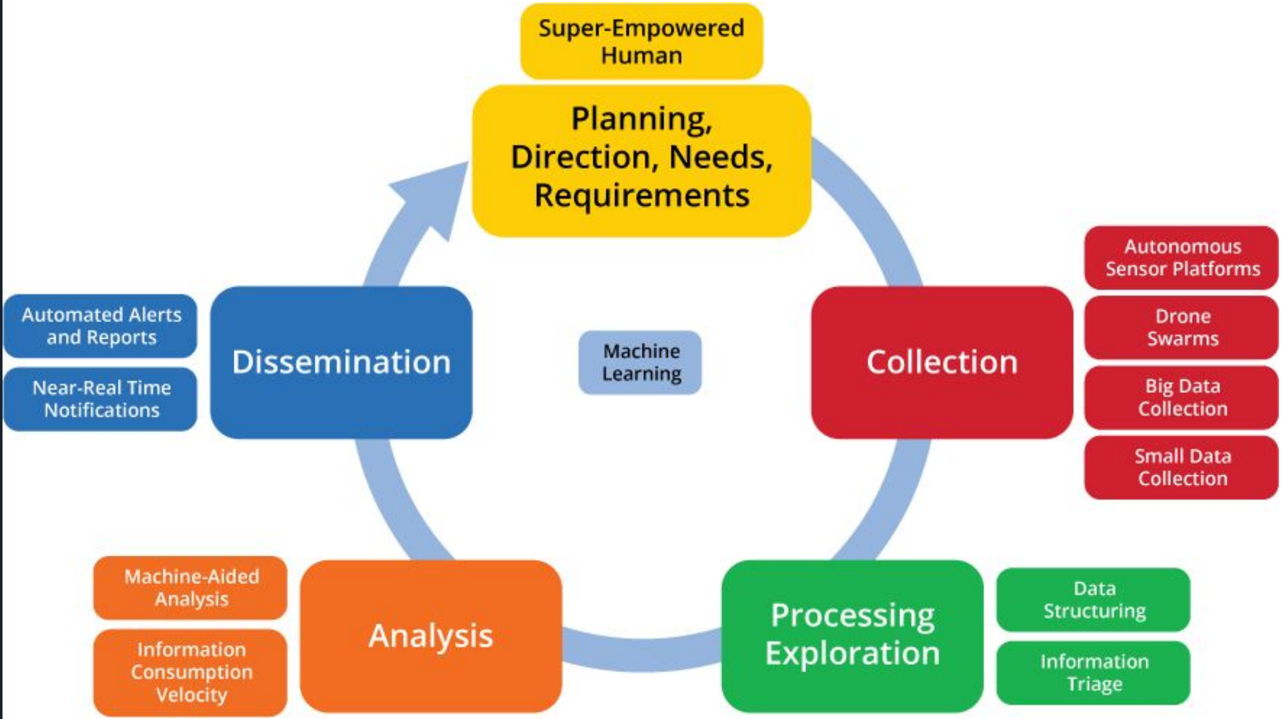


Image source: https://www.recordedfuture.com/open-source-intelligence-future

Data Discovery and Data Mining

Start with what you know

- Define the output - what do you want to find?
- Gather the data
- Refine your conditions and clean up the data

Challenges

- Volume of data
- Reliability of data
- Human time and resources needed to go through the data

Data Discovery and Data Mining

Applying and automating data collection:

- Classification
  - Labeling
  - Metadata
- Clustering
- Deduplication
- Association rules
- Outlier detection

Smart Searching with Google Dork

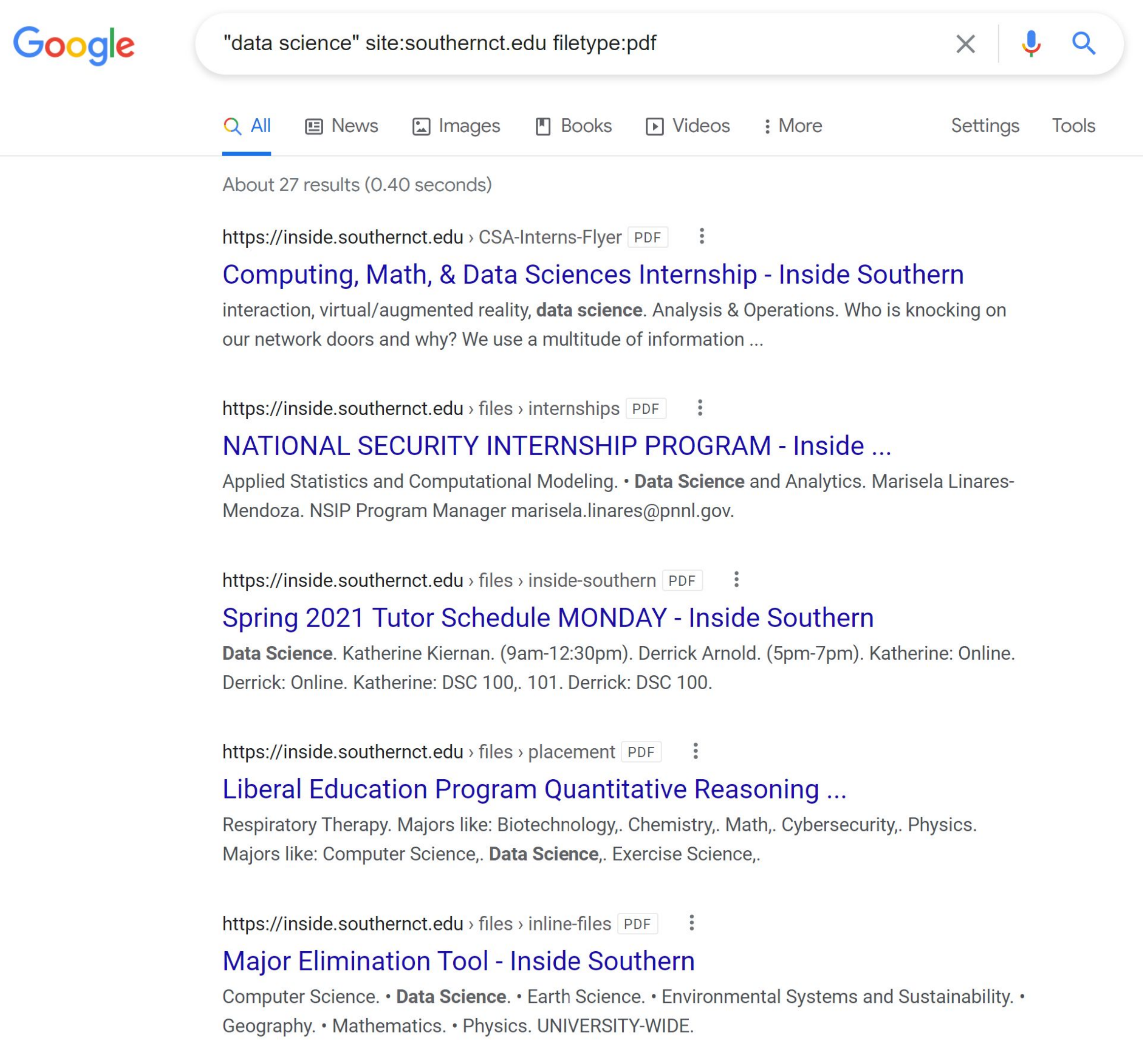
Using advanced searching techniques to discover interesting information

This is also available in Bing, Duckduckgo, and other search engines

Defensive dorking - protect yourself and your organization.

Good resource for learning more:

https://exposingtheinvisible.org/guides/google-dorking/



"data science" site:southernct.edu filetype:pdf

About 27 results (0.40 seconds)

https://inside.southernct.edu › CSA-Interns-Flyer PDF

Computing, Math, & Data Sciences Internship - Inside Southern

interaction, virtual/augmented reality, **data science**. Analysis & Operations. Who is knocking on our network doors and why? We use a multitude of information ...

https://inside.southernct.edu › files › internships PDF

NATIONAL SECURITY INTERNSHIP PROGRAM - Inside ...

Applied Statistics and Computational Modeling. • **Data Science** and Analytics. Marisela Linares-Mendoza. NSIP Program Manager marisela.linares@pnnl.gov.

https://inside.southernct.edu › files › inside-southern PDF

Spring 2021 Tutor Schedule MONDAY - Inside Southern

Data Science. Katherine Kiernan. (9am-12:30pm). Derrick Arnold. (5pm-7pm). Katherine: Online. Derrick: Online. Katherine: DSC 100,. 101. Derrick: DSC 100.

https://inside.southernct.edu › files › placement PDF

Liberal Education Program Quantitative Reasoning ...

Respiratory Therapy. Majors like: Biotechnology,. Chemistry,. Math,. Cybersecurity,. Physics. Majors like: Computer Science,. **Data Science**,. Exercise Science,.

https://inside.southernct.edu › files › inline-files PDF

Major Elimination Tool - Inside Southern

Computer Science. • **Data Science**. • Earth Science. • Environmental Systems and Sustainability. • Geography. • Mathematics. • Physics. UNIVERSITY-WIDE.

Data Analytics Systems - Collection

Allow the users to setup the requirements for the collection from key terms and specific data sources to exclusions and geofencing

The system then utilizes various combinations of data mining techniques to collect and sift through the data for the user

Present the data collected in a cohesive way allowing the user to interact and investigate the results

Data Analytics Systems - Enrichment

Augmenting the data with 3rd party verified data that enhance the value of existing data and help verify the accuracy and validity of the collection

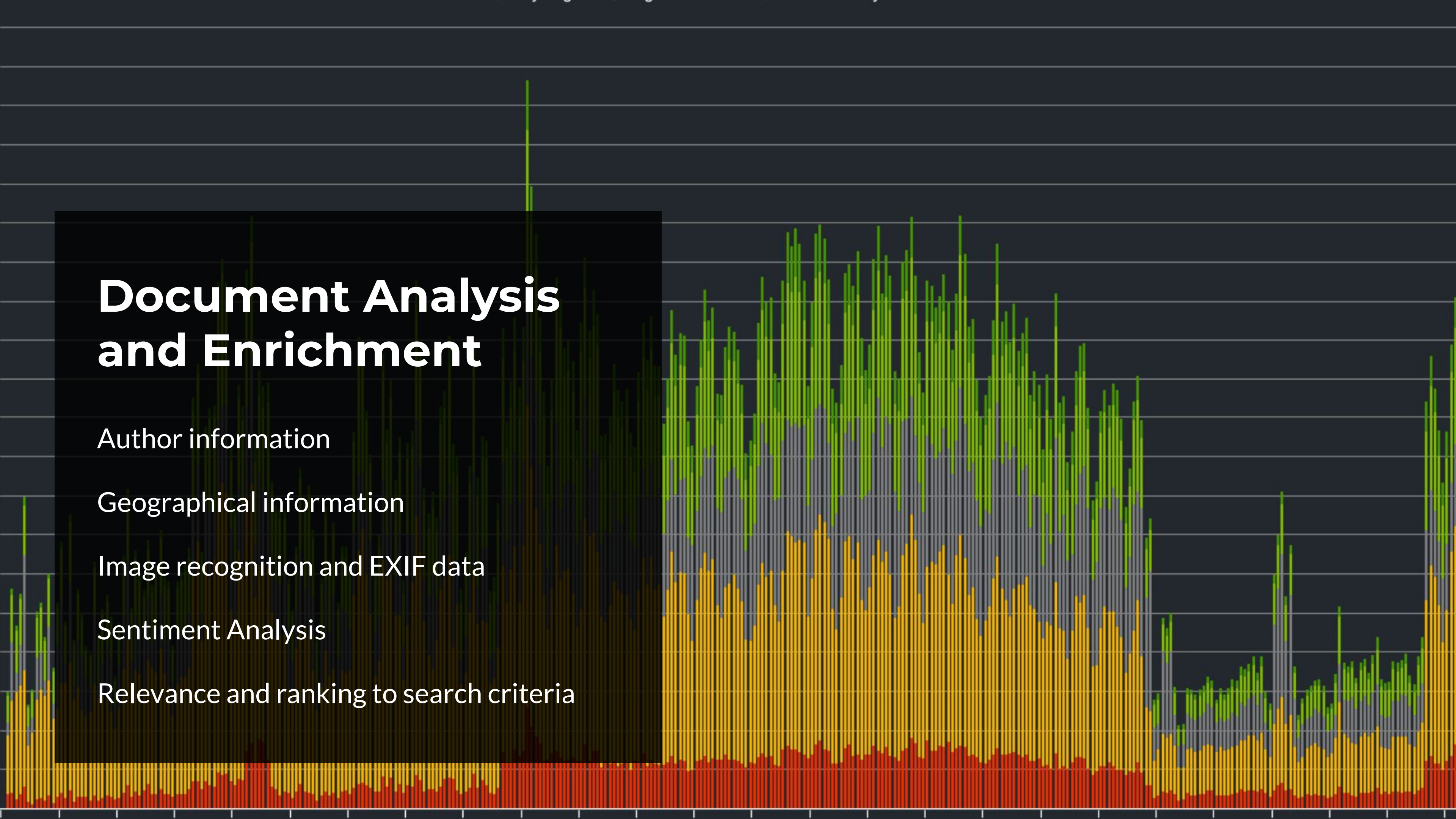
Demographic data adds information such as marital status, relatives, addresses, court records, and more

Geographic data adds location information such as latitude and longitude, nearby places, city boundaries, and so one

Social Media and News data add rank, influence, followers, impact, etc

```
require File.expand_path("../../[illegible]
# Prevent database truncation [illegible]
abort("The Rails environment [illegible]
require 'spec_helper'
require 'rspec/rails'

require 'capybara/rspec'
require 'capybara/rails'

Capybara.javascript_driver = [illegible]
Category.delete_all; Category [illegible]
Shoulda::Matchers.configure do [illegible]
  config.integrate do [illegible]
    with.test_framework [illegible]
    with.library :rails
  end
end

# Add additional requires below [illegible]

# Requires supporting ruby files [illegible]
# spec/support/ and its subdirectories. [illegible]
# run as spec files by default. [illegible]
# in _spec.rb will both be required [illegible]
# run twice. It is recommended [illegible]
# end with _spec.rb. You can configure [illegible]
```

No results found for 'mongoid'



Document Analysis and Enrichment

Author information

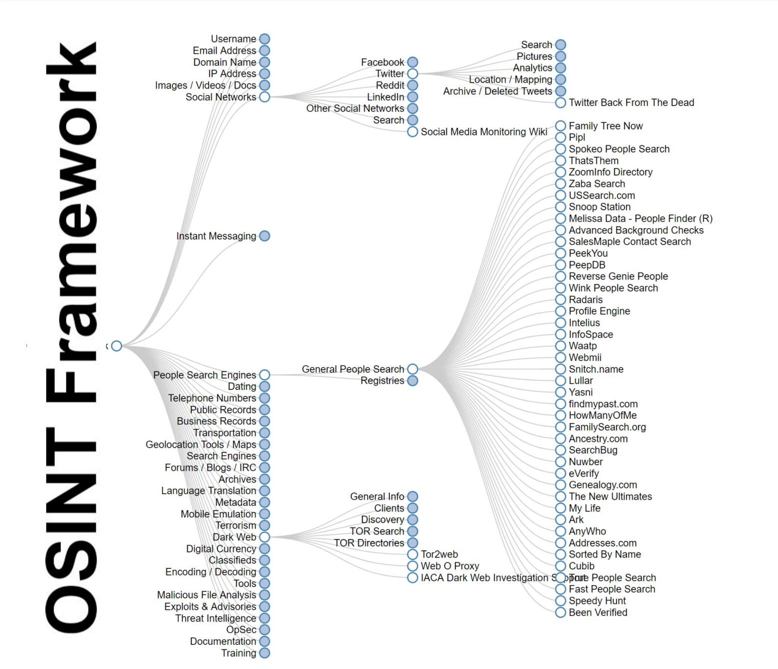
Geographical information

Image recognition and EXIF data

Sentiment Analysis

Relevance and ranking to search criteria

OSINT Tools



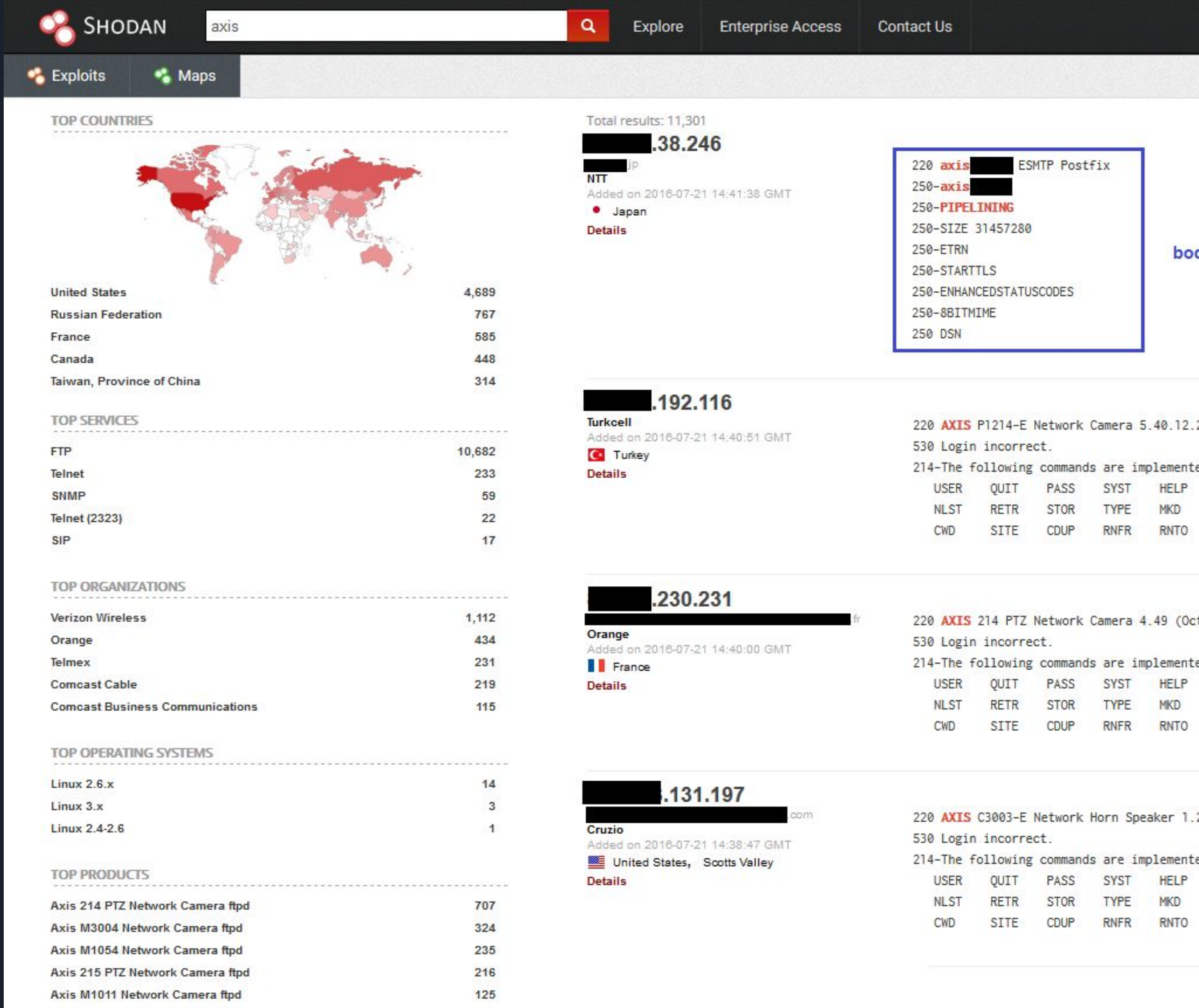
A growing number of tools with amazing capabilities and potential

- **Recon-ng** - a powerful python tool that automates time-consuming OSINT activities such as data gathering
- **Maltego & Maltego CE** - uncovers relationships between people, companies, domains, and publicly accessible data
- **theHarvester** - a simple tool designed to capture public data that exists outside an organization’s owned network
- **Shodan** - a powerful tool that is focused on the internet of things
- **Babel X** - AI-enabled data aggregation and analysis
- **Rsoe-edis** - geospatial tool for emergency and disaster incident reporting

Shodan

Indexes the internet of things

Finds webcams, traffic lights, routers, smart devices, fridges, anything that is connected to the internet



TOP COUNTRIES

United States	4,689
Russian Federation	767
France	585
Canada	448
Taiwan, Province of China	314

TOP SERVICES

FTP	10,682
Telnet	233
SNMP	59
Telnet (2323)	22
SIP	17

TOP ORGANIZATIONS

Verizon Wireless	1,112
Orange	434
Telmex	231
Comcast Cable	219
Comcast Business Communications	115

TOP OPERATING SYSTEMS

Linux 2.6.x	14
Linux 3.x	3
Linux 2.4-2.6	1

TOP PRODUCTS

Axis 214 PTZ Network Camera ftpd	707
Axis M3004 Network Camera ftpd	324
Axis M1054 Network Camera ftpd	235
Axis 215 PTZ Network Camera ftpd	216
Axis M1011 Network Camera ftpd	125

Total results: 11,301

[redacted].38.246
[redacted]jp
NTT
Added on 2016-07-21 14:41:38 GMT
Japan
Details

```
220 axis[redacted] ESMTP Postfix
250-axis[redacted]
250-PIPELINING
250-SIZE 31457280
250-ETRN
250-STARTTLS
250-ENHANCEDSTATUSCODES
250-8BITMIME
250 DSN
```

boc

[redacted].192.116
Turkcell
Added on 2016-07-21 14:40:51 GMT
Turkey
Details

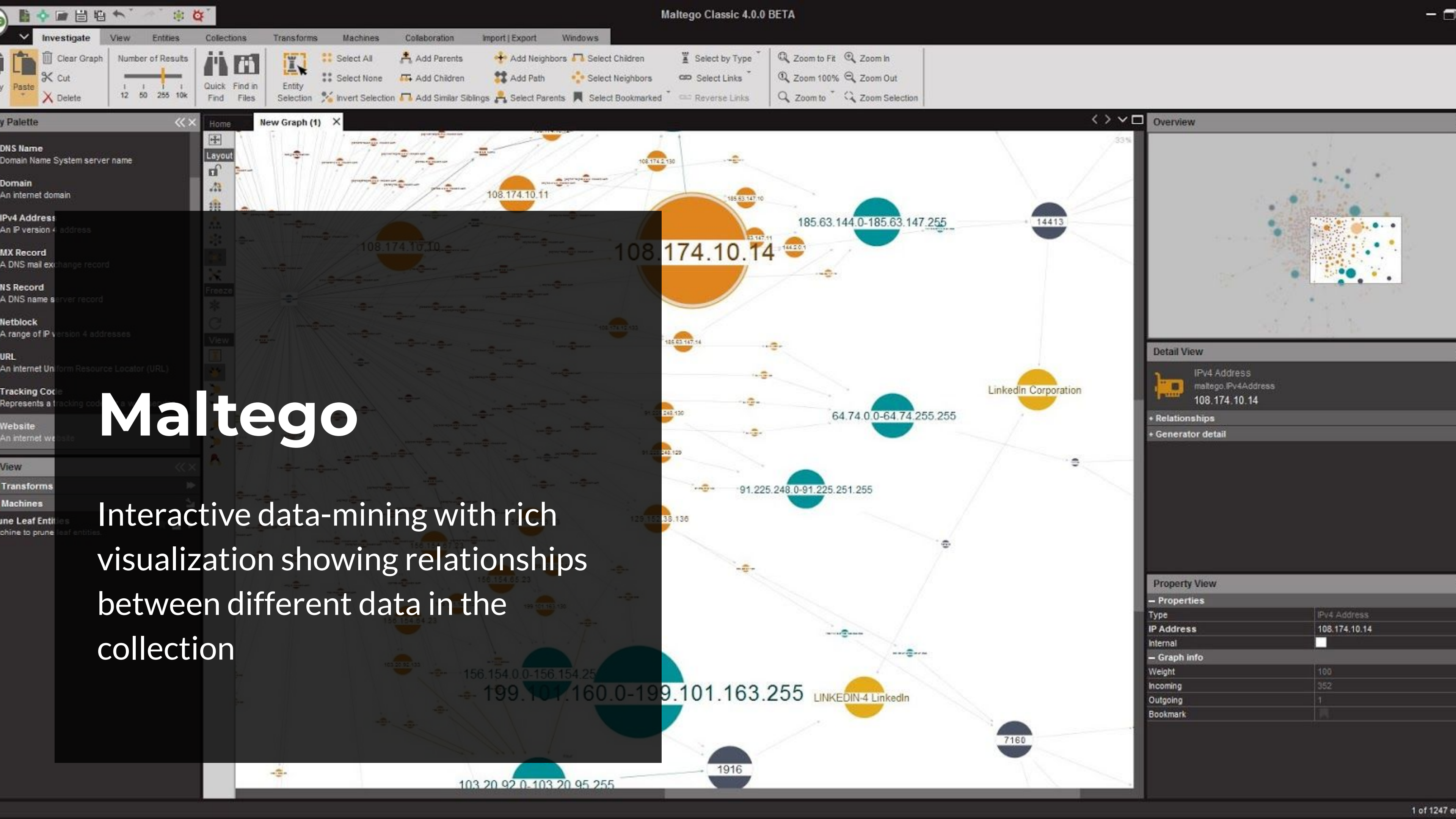
```
220 AXIS P1214-E Network Camera 5.40.12.
530 Login incorrect.
214-The following commands are implemente
   USER    QUIT    PASS    SYST    HELP
   NLST    RETR    STOR    TYPE    MKD
   CWD     SITE    CDUP    RNFR    RNTO
```

[redacted].230.231
[redacted]fr
Orange
Added on 2016-07-21 14:40:00 GMT
France
Details

```
220 AXIS 214 PTZ Network Camera 4.49 (Oc
530 Login incorrect.
214-The following commands are implemente
   USER    QUIT    PASS    SYST    HELP
   NLST    RETR    STOR    TYPE    MKD
   CWD     SITE    CDUP    RNFR    RNTO
```

[redacted].131.197
[redacted]com
Cruzio
Added on 2016-07-21 14:38:47 GMT
United States, Scotts Valley
Details

```
220 AXIS C3003-E Network Horn Speaker 1.
530 Login incorrect.
214-The following commands are implemente
   USER    QUIT    PASS    SYST    HELP
   NLST    RETR    STOR    TYPE    MKD
   CWD     SITE    CDUP    RNFR    RNTO
```



Type: IPv4 Address
IP Address: 108.174.10.14
Internal: □
Weight: 100
Incoming: 352
Outgoing: 1
Bookmark

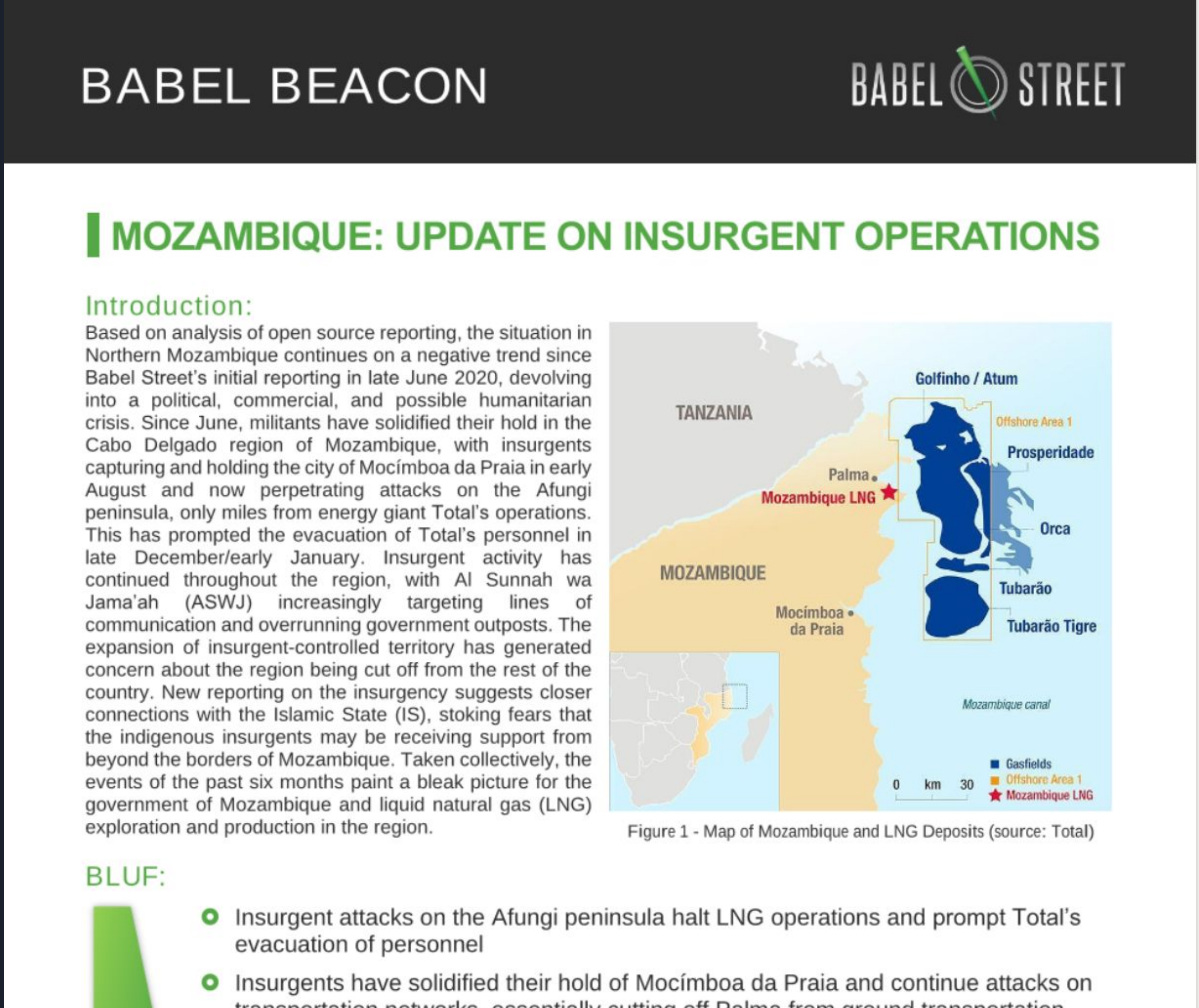
Maltego

Interactive data-mining with rich visualization showing relationships between different data in the collection

BabelStreet.com

“The world’s leading AI-enabled data-to-knowledge company”

B2B SaaS Company



BABEL BEACON

BABEL STREET

MOZAMBIQUE: UPDATE ON INSURGENT OPERATIONS

Introduction:

Based on analysis of open source reporting, the situation in Northern Mozambique continues on a negative trend since Babel Street’s initial reporting in late June 2020, devolving into a political, commercial, and possible humanitarian crisis. Since June, militants have solidified their hold in the Cabo Delgado region of Mozambique, with insurgents capturing and holding the city of Mocímboa da Praia in early August and now perpetrating attacks on the Afungi peninsula, only miles from energy giant Total’s operations. This has prompted the evacuation of Total’s personnel in late December/early January. Insurgent activity has continued throughout the region, with Al Sunnah wa Jama’ah (ASWJ) increasingly targeting lines of communication and overrunning government outposts. The expansion of insurgent-controlled territory has generated concern about the region being cut off from the rest of the country. New reporting on the insurgency suggests closer connections with the Islamic State (IS), stoking fears that the indigenous insurgents may be receiving support from beyond the borders of Mozambique. Taken collectively, the events of the past six months paint a bleak picture for the government of Mozambique and liquid natural gas (LNG) exploration and production in the region.

Figure 1 - Map of Mozambique and LNG Deposits (source: Total)

BLUF:

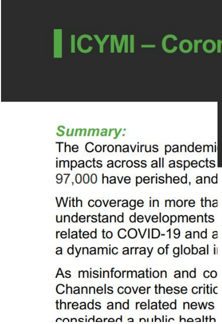
- Insurgent attacks on the Afungi peninsula halt LNG operations and prompt Total’s evacuation of personnel
- Insurgents have solidified their hold of Mocímboa da Praia and continue attacks on transportation networks, essentially cutting off Palma from ground transportation

Sharing Insights

- Timely, actionable awareness from events as they occur around the world
- Tailored, persistent, and relevant information unconstrained by time, location, or language
- Geographically relevant voices from hyper-local sources
- Focused on emergent and timely concerns with topics ranging from:
  - Breaking News
  - Disease Outbreaks
  - Mass Casualty Attacks
  - Natural Disasters
  - Terror Events
  - Transportation Incidents

Hurricane Florence
North Carolina Flooding
StarsNewsOnline
@StarsNewsOnline
2018-09-16 22:11 Z
ENGLISH
North Carolina, United States
First aerial Florence flooding and damage views, courtesy @DrewBrooks of the @fayobserver | https://buff.ly/2MC9PR1
Kenya Disease Outbreaks
RIFT VALLEY FEVER ALERT
Citizen TV Kenya
@citizentvkenya
2018-05-19 17:49 Z
ENGLISH
Kenya
HIGHLIGHTS: Be warned...gov-ernment puts Kenyans on high alert on possible outbreak of rift valley fever #CitizenWeekend
Australia Mass Casualty Attacks
The Courier-Mail
@couriermail
2018-11-10 04:02 Z
ENGLISH
Australia
Bourke St terror attack: Survivor stabbed in head while trying to help #Melbourne https://trib.al/ougb7iJ

Follow @babelstreet on linkedIn or twitter



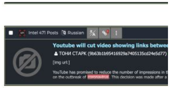
ICYMI – Coronavirus: 5G Conspiracy

BABEL CHANNELS

Summary:
The Coronavirus pandemi
impacts across all aspects
97,000 have perished, and

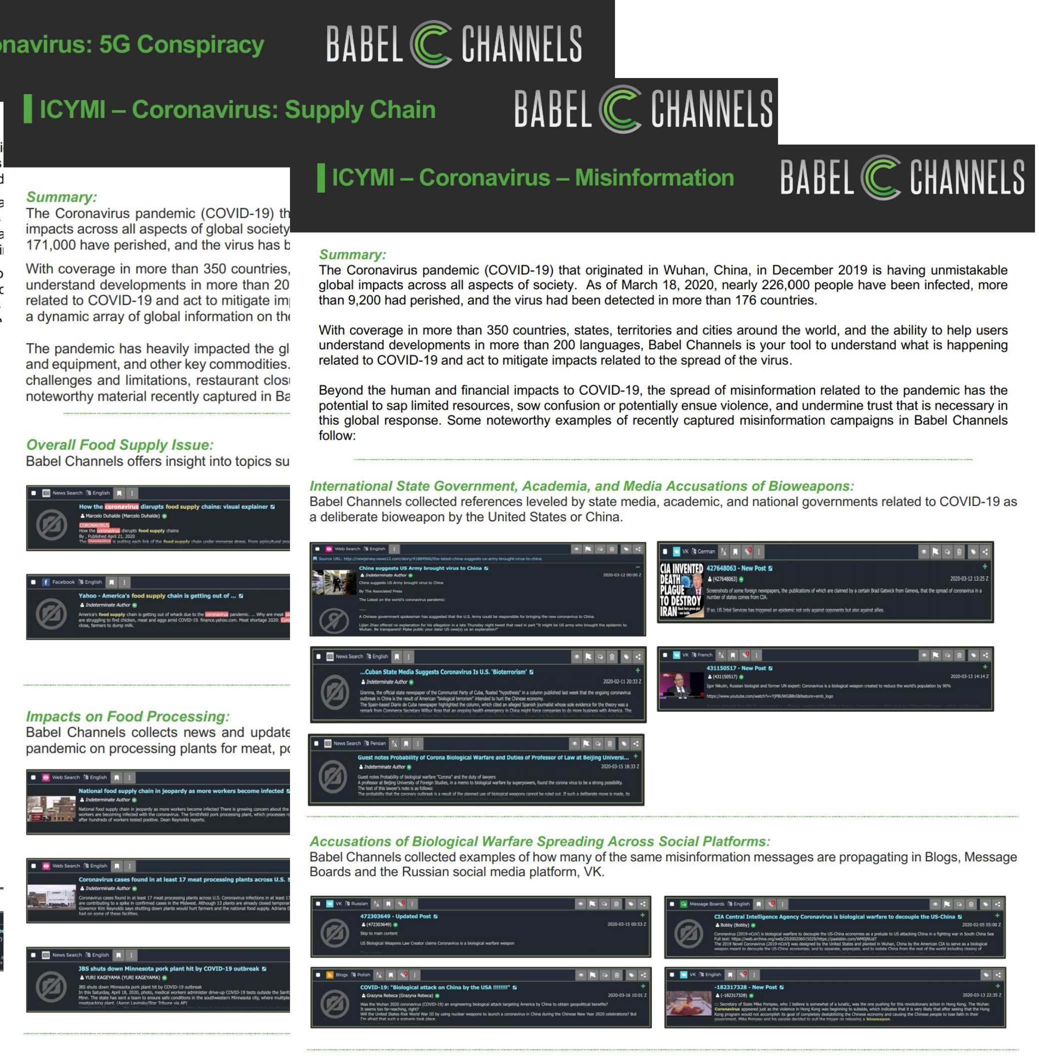
With coverage in more tha
understand developments
related to COVID-19 and a
a dynamic array of global i

As misinformation and co
Channels cover these critic
threads and related news
considered a public health



Intel 471 Posts · Russian

Youtube will cut video showing links betwe
ТОНИ СТАРК (9b63b1b95416929a7405135cd24e5d77)
[img url]
YouTube has promised to reduce the number of impressions in t
on the outbreak of coronavirus. This decision was made after a



ICYMI – Coronavirus: Supply Chain

BABEL CHANNELS

Summary:
The Coronavirus pandemic (COVID-19) th
impacts across all aspects of global society
171,000 have perished, and the virus has b

With coverage in more than 350 countries,
understand developments in more than 20
related to COVID-19 and act to mitigate im
a dynamic array of global information on th

The pandemic has heavily impacted the gl
and equipment, and other key commodities.
challenges and limitations, restaurant clos
noteworthy material recently captured in Ba

Overall Food Supply Issue:

Babel Channels offers insight into topics su

News Search · English
How the coronavirus disrupts food supply chains: visual explainer
Marcelo Duhalde (Marcelo Duhalde)
CORONAVIRUS
How the coronavirus disrupts food supply chains
By , Published April 21, 2020
The coronavirus is putting each link of the food supply chain under immense stress. From agricultural pro

Facebook · English
Yahoo - America's food supply chain is getting out of ...
Indeterminate Author
America's food supply chain is getting out of whack due to the coronavirus pandemic. ... Why are meat pl
are struggling to find chicken, meat and eggs amid COVID-19. finance.yahoo.com. Meat shortage 2020: Cor
close, farmers to dump milk.

Impacts on Food Processing:

Babel Channels collects news and update
pandemic on processing plants for meat, po

Web Search · English
National food supply chain in jeopardy as more workers become infected
Indeterminate Author
National food supply chain in jeopardy as more workers become infected There is growing concern about the
workers are becoming infected with the coronavirus. The Smithfield pork processing plant, which processes ro
after hundreds of workers tested positive. Dean Reynolds reports.

Web Search · English
Coronavirus cases found in at least 17 meat processing plants across U.S.
Indeterminate Author
Coronavirus cases found in at least 17 meat processing plants across U.S. Coronavirus infections in at least 17
are contributing to a spike in confirmed cases in the Midwest. Although 13 plants are already closed temporar
Governor Kim Reynolds says shutting down plants would hurt farmers and the national food supply. Adriana D
had on some of these facilities.

News Search · English
JBS shuts down Minnesota pork plant hit by COVID-19 outbreak
YURI KAGEYAMA (YURI KAGEYAMA)
JBS shuts down Minnesota pork plant hit by COVID-19 outbreak
In this Saturday, April 18, 2020, photo, medical workers administer drive-up COVID-19 tests outside the Sanfo
Minn. The state has sent a team to ensure safe conditions in the southwestern Minnesota city, where multiple
meatpacking plant. (Aaron Lavinsky/Star Tribune via AP)

ICYMI – Coronavirus – Misinformation

BABEL CHANNELS

Summary:
The Coronavirus pandemic (COVID-19) that originated in Wuhan, China, in December 2019 is having unmistakable global impacts across all aspects of society. As of March 18, 2020, nearly 226,000 people have been infected, more than 9,200 had perished, and the virus had been detected in more than 176 countries.

With coverage in more than 350 countries, states, territories and cities around the world, and the ability to help users understand developments in more than 200 languages, Babel Channels is your tool to understand what is happening related to COVID-19 and act to mitigate impacts related to the spread of the virus.

Beyond the human and financial impacts to COVID-19, the spread of misinformation related to the pandemic has the potential to sap limited resources, sow confusion or potentially ensue violence, and undermine trust that is necessary in this global response. Some noteworthy examples of recently captured misinformation campaigns in Babel Channels follow:

International State Government, Academia, and Media Accusations of Bioweapons:

Babel Channels collected references leveled by state media, academic, and national governments related to COVID-19 as a deliberate bioweapon by the United States or China.

Web Search · English
Source URL: http://newjersey.news12.com/story/41884966/the-latest-china-suggests-us-army-brought-virus-to-china
China suggests US Army brought virus to China
Indeterminate Author · 2020-03-12 00:00 Z
China suggests US Army brought virus to China
By The Associated Press
The Latest on the world's coronavirus pandemic:
—
A Chinese government spokesman has suggested that the U.S. Army could be responsible for bringing the new coronavirus to China.
Lijian Zhao offered no explanation for his allegation in a late Thursday night tweet that read in part "It might be US army who brought the epidemic to Wuhan. Be transparent! Make public your data! US owe(s) us an explanation!"

VK · German
427648063 - New Post
(427648063) · 2020-03-12 13:25 Z
CIA INVENTED DEATH PLAGUE TO DESTROY IRAN
Screenshots of some foreign newspapers, the publications of which are claimed by a certain Brad Gatwick from Geneva, that the spread of coronavirus in a number of states comes from CIA.
If so, US Intel Services has triggered an epidemic not only against opponents but also against allies.

News Search · English
...Cuban State Media Suggests Coronavirus Is U.S. 'Bioterrorism'
Indeterminate Author · 2020-02-11 20:33 Z
Granma, the official state newspaper of the Communist Party of Cuba, floated "hypothesis" in a column published last week that the ongoing coronavirus outbreak in China is the result of American "biological terrorism" intended to hurt the Chinese economy.
The Spain-based Diario de Cuba newspaper highlighted the column, which cited an alleged Spanish journalist whose sole evidence for the theory was a remark from Commerce Secretary Wilbur Ross that an ongoing health emergency in China might force companies to do more business with America. The

VK · French
431150517 - New Post
(431150517) · 2020-03-13 14:14 Z
Igor Nikulin, Russian biologist and former UN expert: Coronavirus is a biological weapon created to reduce the world's population by 90%
https://www.youtube.com/watch?v=YjPBUWGB8nI&feature=emb_logo

News Search · Persian
Guest notes Probability of Corona Biological Warfare and Duties of Professor of Law at Beijing Universi...
Indeterminate Author · 2020-03-15 18:33 Z
Guest notes Probability of biological warfare "Corona" and the duty of lawyers
A professor at Beijing University of Foreign Studies, in a memo to biological warfare by superpowers, found the corona virus to be a strong possibility.
The text of this lawyer's note is as follows:
The probability that the coronary outbreak is a result of the planned use of biological weapons cannot be ruled out. If such a deliberate move is made, its

Accusations of Biological Warfare Spreading Across Social Platforms:

Babel Channels collected examples of how many of the same misinformation messages are propagating in Blogs, Message Boards and the Russian social media platform, VK.

VK · Russian
472303649 - Updated Post
(472303649) · 2020-03-15 00:53 Z
Skip to main content
US Biological Weapons Law Creator claims Coronavirus is a biological warfare weapon

Message Boards · English
CIA Central Intelligence Agency Coronavirus is biological warfare to decouple the US-China
Bobby (Bobby) · 2020-02-05 05:00 Z
Coronavirus (2019-nCoV) is biological warfare to decouple the US-China economies as a prelude to US attacking China in a fighting war in South China Sea
Full text: https://web.archive.org/web/20200206015029/https://pastebin.com/WM0jNUd7
The 2019 Novel Coronavirus (2019-nCoV) was designed by the United States and planted in Wuhan, China by the American CIA to serve as a biological weapon meant to decouple the US-China economies; and to separate, segregate, and to isolate China from the rest of the world including closing of

Blogs · Polish
COVID-19: "Biological attack on China by the USA !!!!!!!!"
Grazyna Rebeca (Grazyna Rebeca) · 2020-03-16 10:01 Z
Was the Wuhan 2020 coronavirus (COVID-19) an engineering biological attack targeting America by China to obtain geopolitical benefits?
It seems too far-reaching, right?
Will the United States Risk World War III by using nuclear weapons to launch a coronavirus in China during the Chinese New Year 2020 celebrations? But I'm afraid that such a scenario took place.

VK · English
-182317328 - New Post
(-182317328) · 2020-03-13 22:35 Z
::: Secretary of State Mike Pompeo, who I believe is somewhat of a lunatic, was the one pushing for this revolutionary action in Hong Kong. The Wuhan Coronavirus appeared just as the violence in Hong Kong was beginning to subside, which indicates that it is very likely that after seeing that the Hong Kong program would not accomplish its goal of completely destabilizing the Chinese economy and causing the Chinese people to lose faith in their government, Mike Pompeo and his people decided to pull the trigger on releasing a bioweapon.

rsoe-edis.org

Monitors, aggregates, analyzes and notifies.

Focused on emergency and disaster information reporting

OSINT Tools Advantage

Data Aggregation - from unstructured data into a structured queryable, filterable, sortable, and digestible data

Analysis and Enrichment - augmenting the data with additional metadata and 3rd party information to help analyze, validate, label, group, and dedup

Visualization - creating mind maps, visualizing relationships, geographical view, data time lapse

Automated Alerting and Reporting - continuous monitoring and automation allows alerting and reporting

```
require File.expand_path(" [illegible]
# Prevent database [illegible]
abort("The Rails environment [illegible]
require 'spec_helper'
require 'rspec/rails'

require 'capybara/rspec'
require 'capybara/rails'

Capybara.javascript_driver [illegible]
Category.delete_all; Category [illegible]
Shoulda::Matchers.configure [illegible]
  config.integrate do [illegible]
    with.test_framework [illegible]
    with.library :rails
  end
end

# Add additional requires [illegible]

# Requires supporting [illegible]
# spec/support/ and its [illegible]
# run as spec files by [illegible]
# in _spec.rb will [illegible]
# run twice. It is [illegible]
# end with _spec.rb. [illegible]
```

Use Cases

Event Monitoring

Finding People

Workflows

Event Monitoring: Super Bowl XLIX

Collected more than **one billion** posts related to Super Bowl XLIX and the Phoenix area, including **40,000 geo-located postings**.

124,000-plus were filtered and analyzed

48 of those being passed along to the necessary individuals for further analysis

Ultimately, among the multiple uses of Babel X during the game, **three particular** postings were identified that indicated possible threats to the venue. Each was vetted successfully and cleared.

Babel Street was awarded the Golden Eagle Award from the National Center for Spectator Sports Safety & Security (NCS4)

Source: SDM Magazine

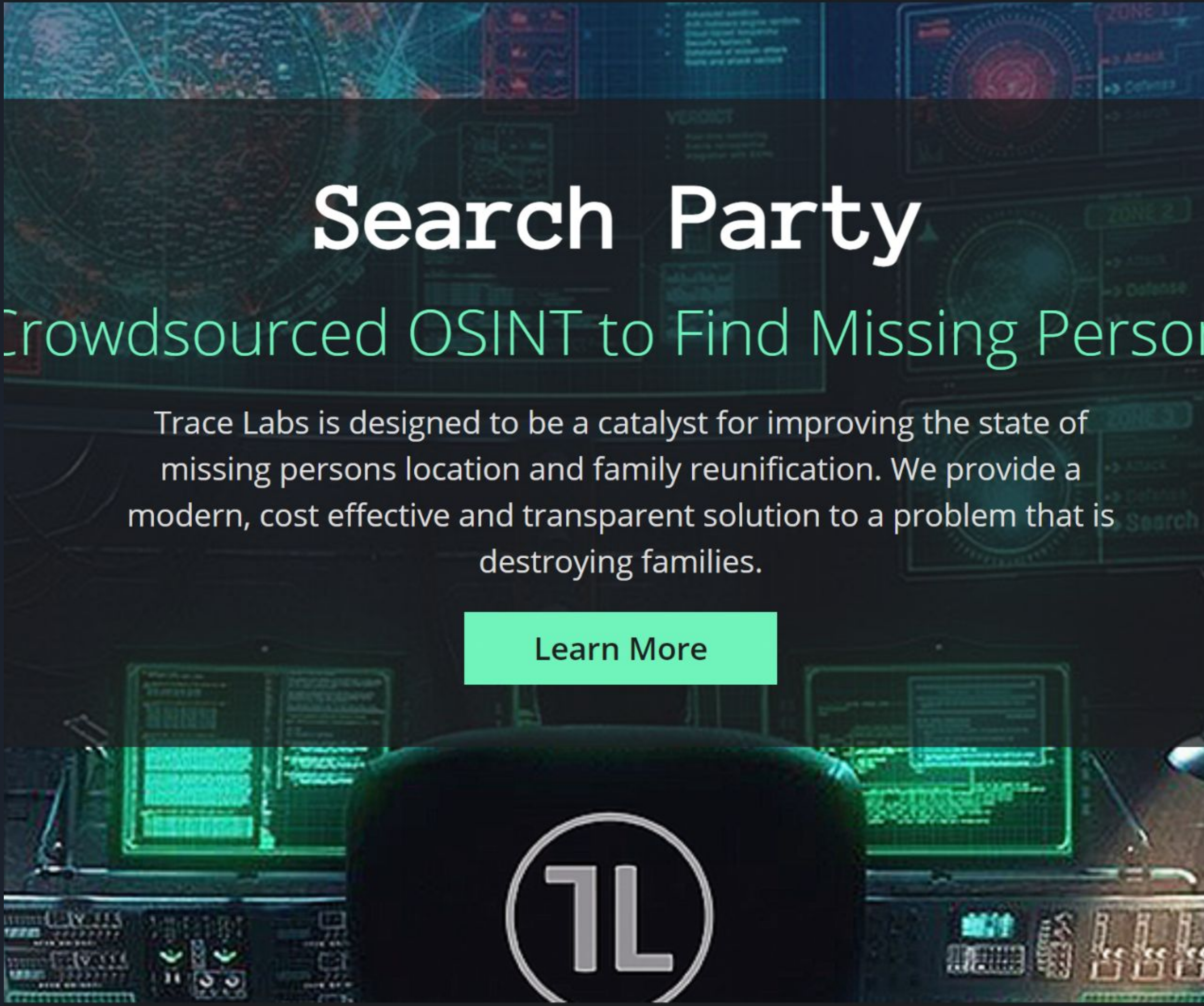
trace labs
CROWDSOURCED OPEN SOURCE INTELLIGENCE

TraceLabs.org

Crowdsources OSINT operations to find missing people

Data is passed to respective law enforcement to pursue appropriate action

Over 300 assisted cases around the world



Search Party

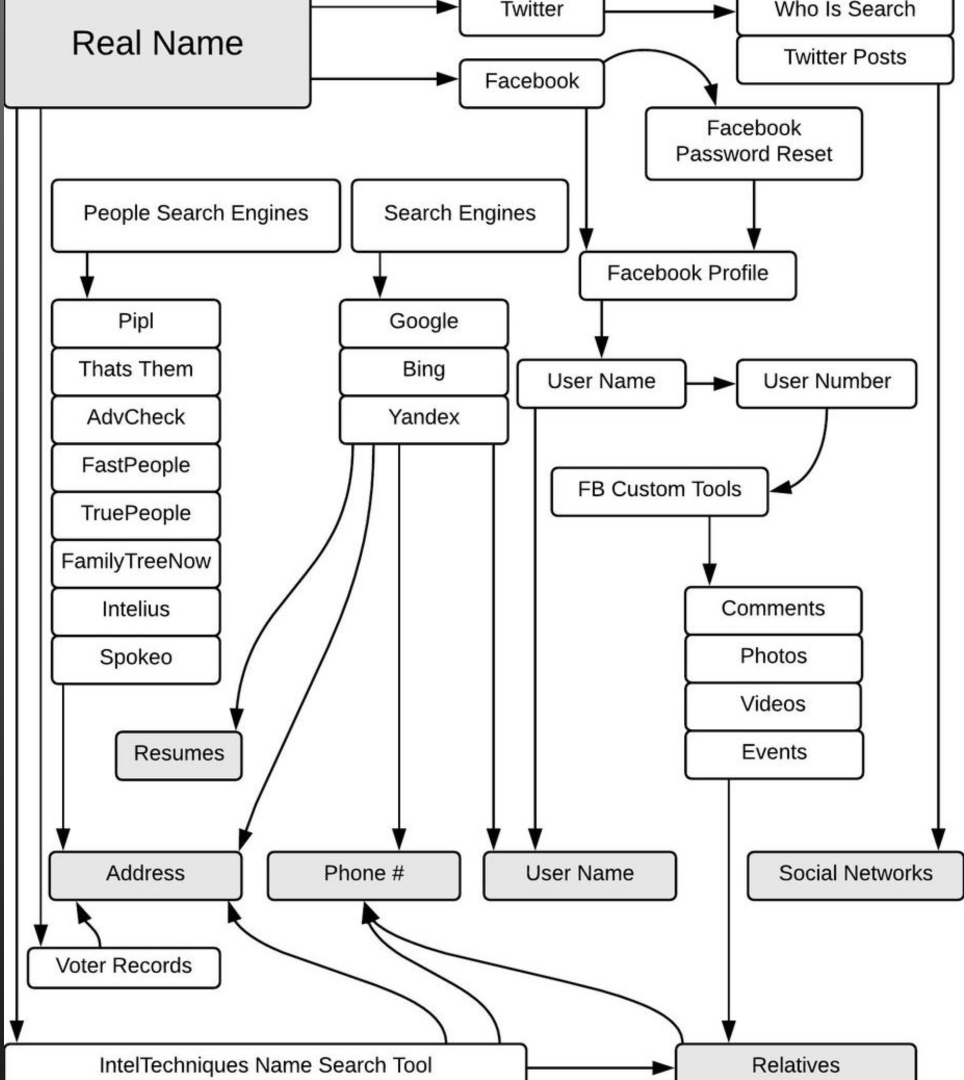
Crowdsourced OSINT to Find Missing Perso

Trace Labs is designed to be a catalyst for improving the state of missing persons location and family reunification. We provide a modern, cost effective and transparent solution to a problem that is destroying families.

Starting with a name

- spokeo.com
- thatsthem.com
- beenverified.com
- fastpeoplesearch.com
- truepeoplesearch.com
- familytreenow.com
- people.yandex.ru

Image Source: IntelTechniques.com OSINT Workflow Chart: Real Name



Starting with a username

Reverse username search

- Socialcatfish.com
- Usersearch.org
- Peekyou.com

Username search

- Instantusername.com
- Namechk.com
- Whatsmyname.com

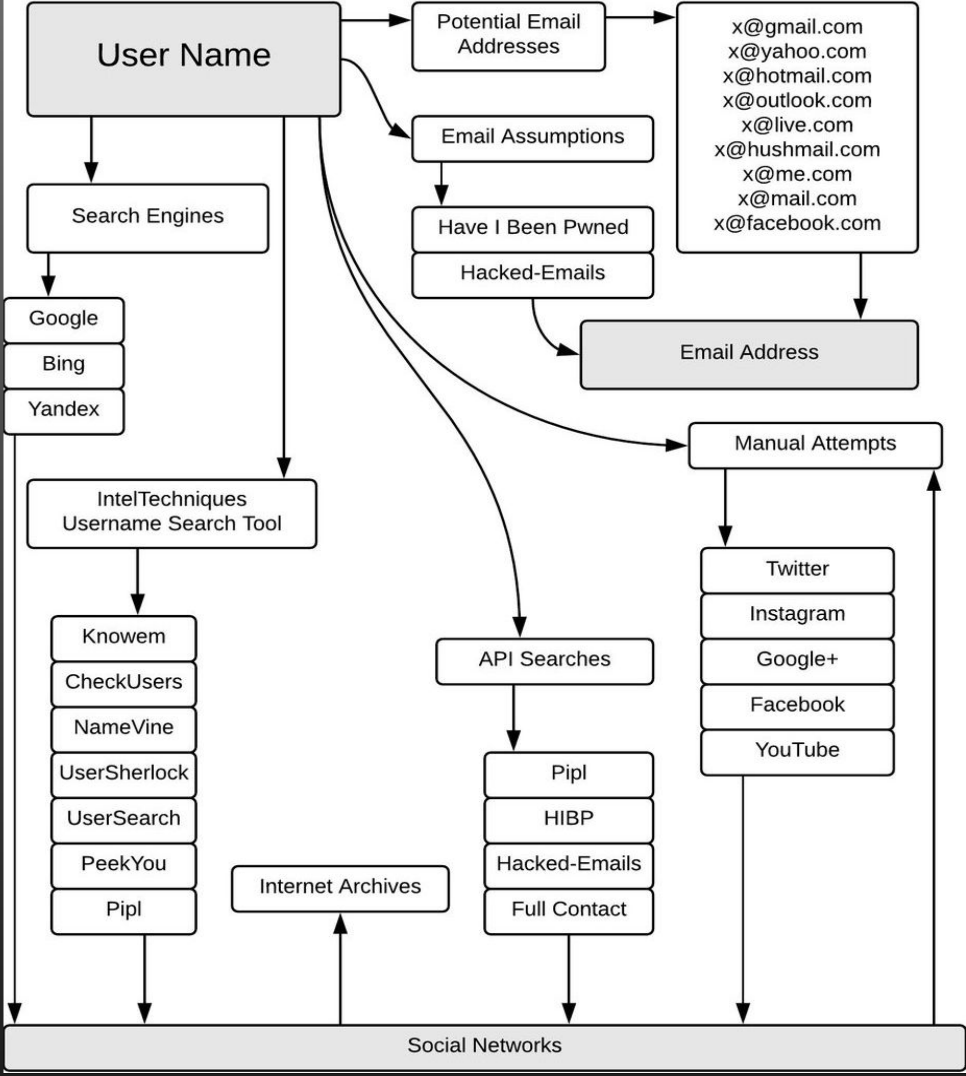


Image Source: IntelTechniques.com OSINT Workflow Chart: User Name

Before you get start with OSINT

Common strategies OSINT investigators use to protect themselves:

- Understand the issues that could decrease their anonymity
- Use VMWare
- Use emulators
- Create burner profiles (emails or social media)
- Use VPNs
- Leverage different web browsers and add-ons

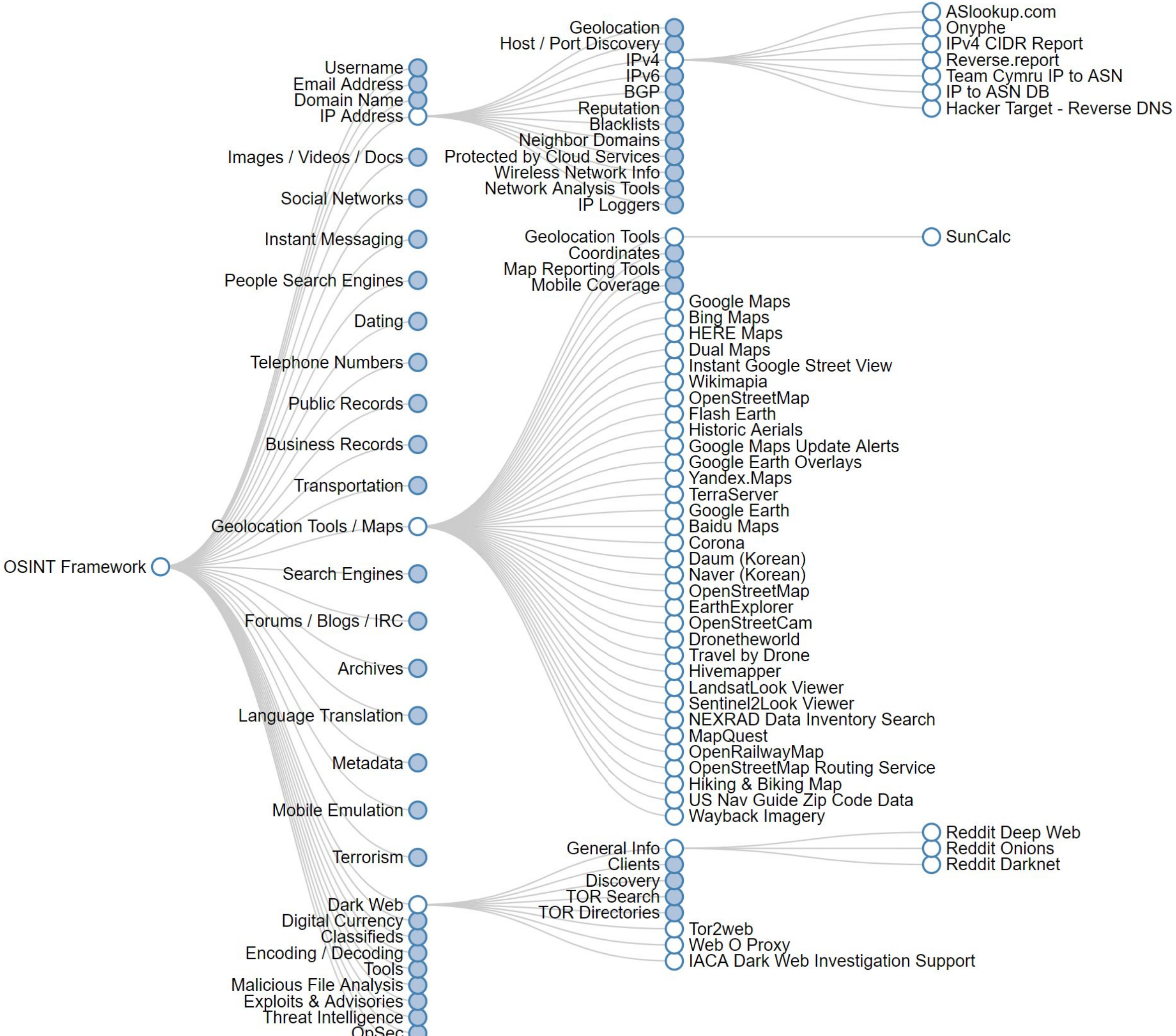
OSINT Resources

OSINT Framework - interactive chart - helps you know where to start, what to do, and what tools to use.

WebBreacher.com – Micah Hoffman's Blog

Intertechniques.com - Michael Bazzell

Osintcurio.us



Disclaimer

This information is for educational use ONLY and not to be used for personal or unlawful purposes.

Please be respectful of others privacy and do not do anything “creepy” without consent.

If you torture the data long enough, it will confess to anything. ~R. Coase

The Intelligence Process

OSINT Concepts and Open Source Data

OSINT Tools

AI/ML and Data Science applications in OSINT

OSINT Tools & Use Cases

Takeaways

OSINT is based exclusively on publicly available data such as the contents of the open web

AI is key to expanding and improving OSINT. In particular, it enables human analysts to collect, enrich, analyze, and disseminate information in a timely and decisive manner

Human interaction and input into the process is vital and cannot be completely replaced by AI

Thank You!

Have follow up questions or comments, feel free to reach out on linkedin.com/in/nisreencain/