OPEN-SOURCE INTELLIGENCE

A primer on how to utilise public data in lieu of privileged information

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OSINT?

Collection, analysis, and dissemination of publicly available information for intelligence purposes

Data source:

- social media (SOCMINT)
- geospatial data (GEOINT)
- public records
- others

(more on this later)

WHY IMPORTANT?

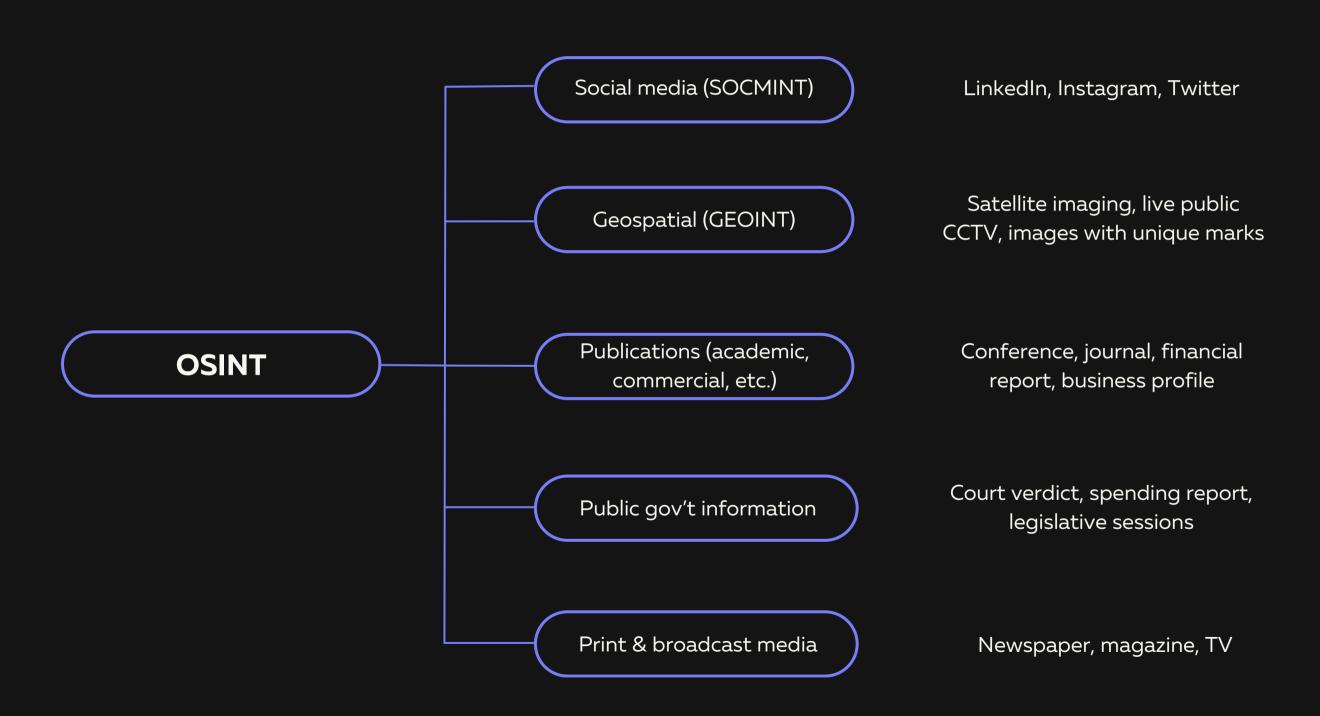
- Every minute, users generate*:
 - 500 hours of YouTube video
 - 1.7 million Facebook posts
 - 66 thousands Instagram posts
 - 347 thousands Twitter posts
- Organisations are becoming more transparent and publishing data online

Useful for:

- Intelligence & security
- Investigative journalism
- Academic research
- Legal proceedings
- Business research

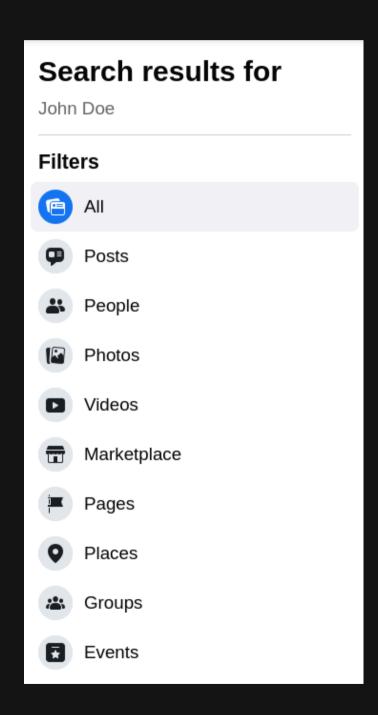


CLASSIFICATIONS



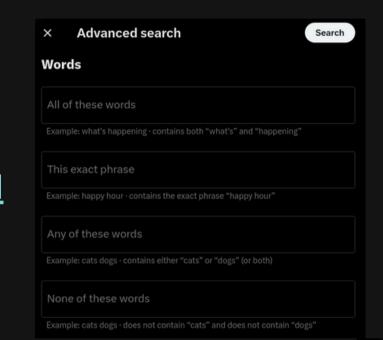
SOCIAL MEDIA: FACEBOOK

- Intimate/biographical information of one's life (place & date of birth, education, personal relationships, hobby, etc.)
- Use the search filter whenever possible
- More specific searching requires complex manipulation of URL parameters
 - Involves JSON formatting with Base64 encoding
 - Read more: <u>blog.nem.ec/2020/06/07/new-facebook-graph-search</u>
- Use online tool: inteltechniques.com/tools/Facebook.html



SOCIAL MEDIA: TWITTER

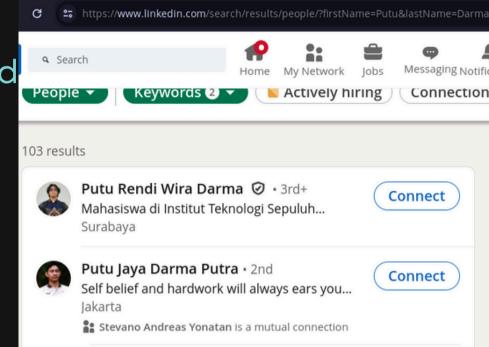
- Daily activities & interests
- Twitter Advanced search: https://twitter.com/search-advanced
- Search operator:
 - "A phrase" (double quotes): tweet containing that specific phrase/keyword
 - x AND y: tweet containing keywords "x" AND "y"
 - **x OR y**: tweet containing keywords "x" OR "y"
 - -keyword: tweet NOT containing said keyword
 - **from:x**: tweet from account with username "x"
 - **to:y**: tweet directed to account with username "y"
 - since:2020-12-25: tweet after 25 December 2020
 - **until:2021-07-01**: tweet before 1 July 2021
 - Read more: <u>developer.twitter.com/en/docs/twitter-api/v1/rules-and-filtering/search-operators</u>

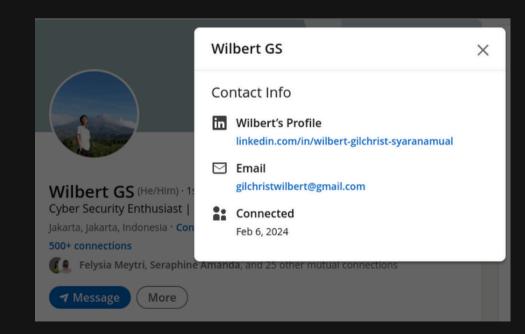




SOCIAL MEDIA: LINKEDIN

- Professional work history, education, achievement, affiliations, and others.
- Knowing target's full name will greatly aid search efforts.
- Targeted searching with **URL parameter**:
 - First & last name: https://www.linkedin.com/search/results/people/?firstName=
 [Nama depan]&lastName=[Nama belakang]
 - Company: https://www.linkedin.com/search/results/people/?company=
 [perusahaan]
 - Job title: https://www.linkedin.com/search/results/people/?title=[title]
 - School: https://www.linkedin.com/search/results/people/?school=[sekolah]
- Places of interest:
 - Contact Info
 - Recent Activity





EMAIL & USERNAME

Look up username with **sherlock**

```
python3 sherlock hackerman1337
[*] Checking username hackerman1337 on:

[+] 9GAG: https://www.9gag.com/u/hackerman1337
[+] AllMyLinks: https://allmylinks.com/hackerm
[+] Archive.org: https://archive.org/details/allmylinks.https://ask.fm/hackerman1337
```

<u>github.com/sherlock-project/sherlock</u>

Look up email with **holehe**

github.com/megadose/holehe

PUBLIC RECORDS

Public informations such as court records and company legal entity data can help with OSINT investigation.

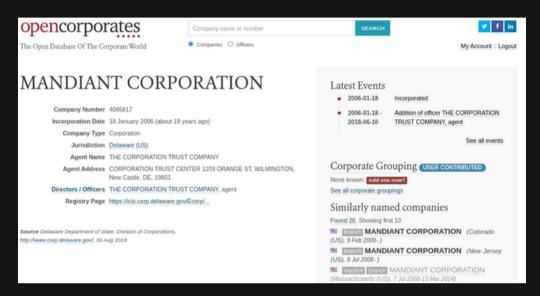
Data source:

- Company registry
 - Basic business information such as its proper name, HQ location, director's name
 - Financial records gives insight about the company's performance
- Court records
 - Information may vary (depending on the nature of the case)
 - Useful for investigations involving legal cases
- Property records
 - Trace the ownership of a property to an individual or organisation
 - Determine target's asset value
- Other public database (e.g., vehicle, education, website WHOIS)

Note:

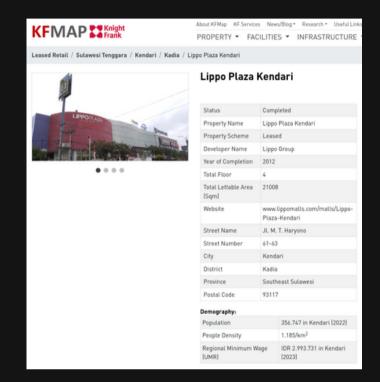
- Data is not always available online
- Think outside the box
- Gather info from multiple sources

WHERE TO SEARCH THEM?



OpenCorporates

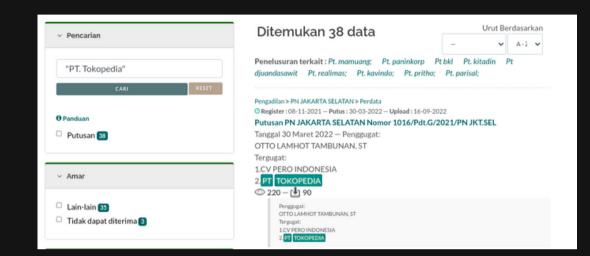




KFMap (—)



JudyRecord (**)**



Direktori Putusan MA





Black Book Online

GOOGLE DORKING

Use various search operators to optimise search results.

COMMON OPERATORS:

- "" → has said keyword
- $OR \rightarrow$ has one of the two keywords
- * (wildcard) \rightarrow match any word
 - Used with " "
- **AND** → has both keywords
- - → exclude keyword
- () → groups search operations
- cache: → cache of recent pages
- filetype:/ext: → files of a certain type
- **site:** → page of a specific website
- **before:** → page created before a certain date
- after: → page created after a certain date
- intitle: → page with a specific word in the title
- inurl: → page with a specific word in its URL
- intext: → page with specific words in their content
- allintitle:/allinurl:/allintext: → several keywords at once

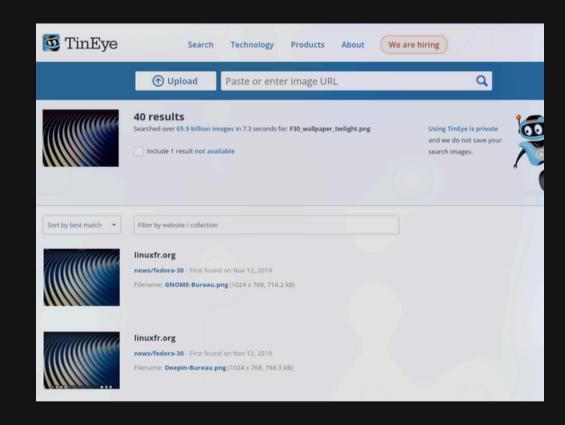
GEOSPATIAL INTELLIGENCE

GEOINT can help geolocate (identify geographical location) and chronolocate (identify time) in image analysis to aid in OSINT investigations.

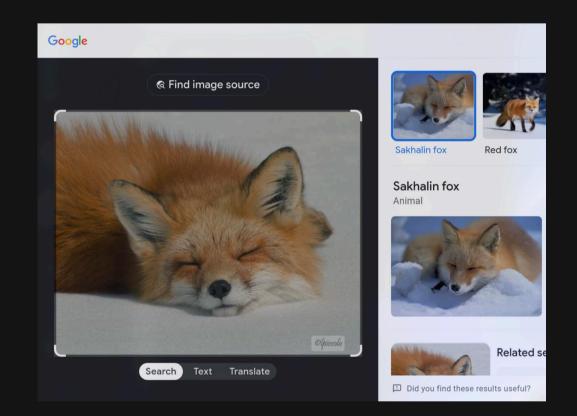


Can you identify where this is taken from?

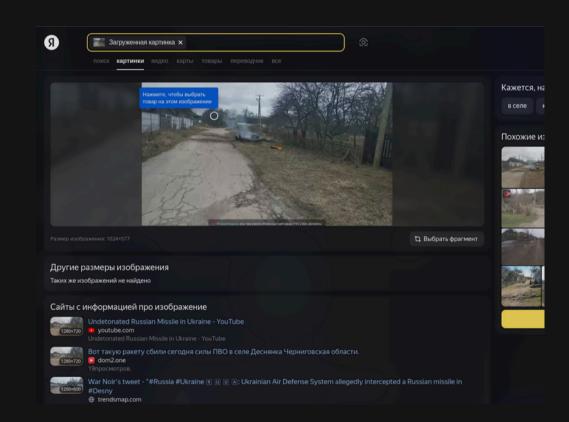
REVERSE IMAGE SEARCH



Tineye (tineye.com)



Google (images.google.com)



Yandex (yandex.ru/images)

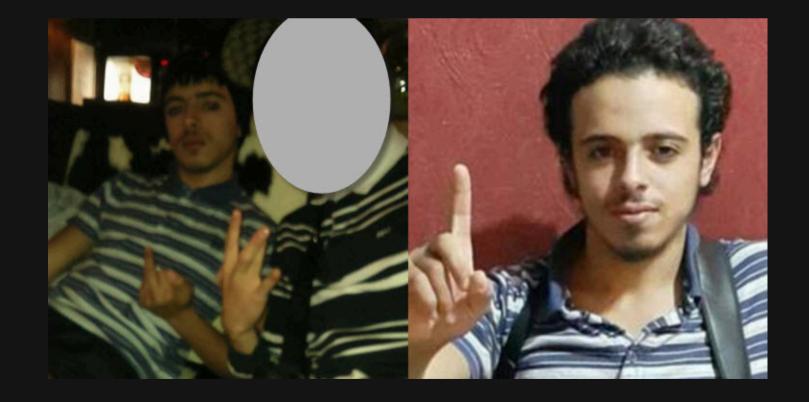
CASE STUDY - BELLINGCAT

Finding the Facebook Account of a Paris Suicide Bomber

- November 13, 2015: 6 terrorist attacks in Paris; one near *Stade de France* during a Germany-France football match.
- There are 3 perpetrators; one of them is Bilal Hadfi
- Bellingcat came accross the account "bilal.hadfi.1" on Facebook, which has connection to another account "Billy du Hood."
- "bilal.hadfi.1" has no public photos. However, "Billy du Hood" does have several public photos.
- Identified Bilal Hadfi from a Dutch article.
- There are similarities between the photo in the article and the one uploaded by "Billy du Hood" on Facebook.
 - There is a kind of birthmark between the eyebrows.
 - Both persons wear clothes with the same motif.







BE CAREFUL!

- Identify the use of inflammatory hyperboles in content
- Always use more than one source to prevent bias
- Beware of fake accounts.
 - Usually use a profile photo generated by Al
 - Do a reverse image search to be sure (e.g., Tineye, Google Reverse Image Search, Yandex)
- Be wary of the sources themselves
- If unsure, turn to fact-checking sites (e.g. Snopes)
- Maintain skepticism; don't get carried away by your own bias