# OSINT Google and Social Networks Hacks

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These slides:
http://bit.ly/OSINT-LinkedIn-Google

# Irina Shamaeva - About My Work

Sourcing Certifications

Brain Gain RECRUITING

Social List

Boolean Strings By Irina Shamaeva

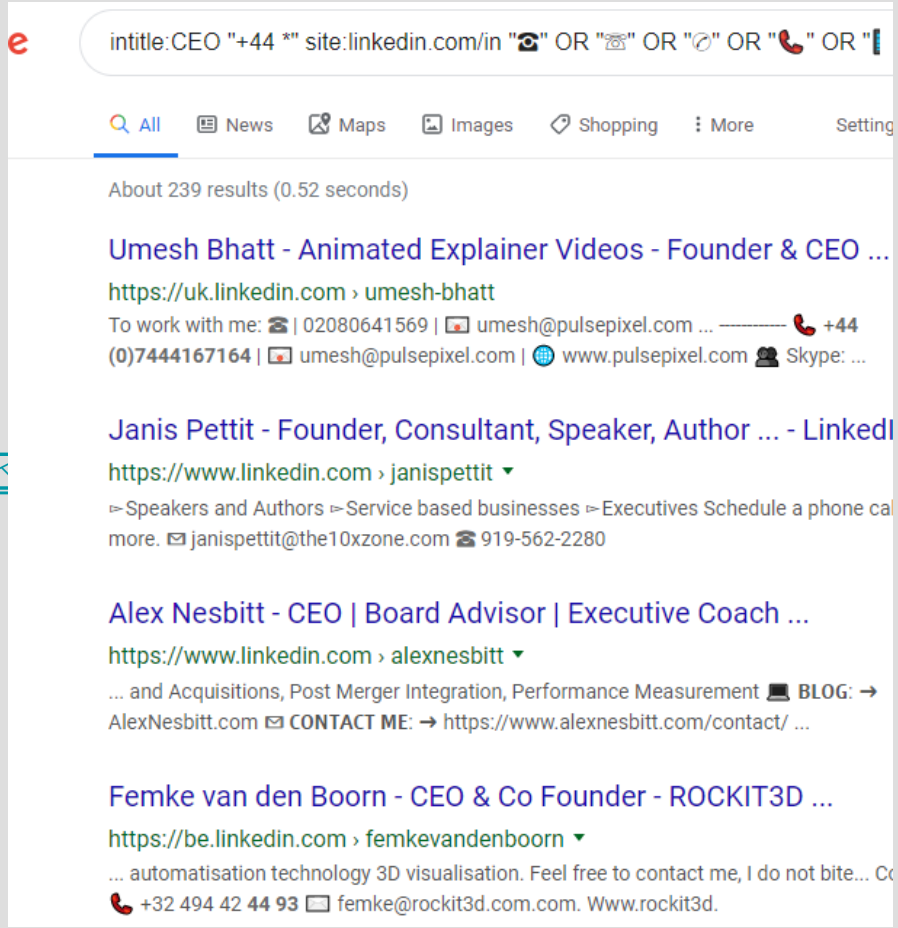
# Google Search Operators Tip Sheet

| | |
|---|---|
| **Logical OR** | OR or \| |
| **Logical AND** | no operator (implied) |
| **Logical NOT** | - (the hyphen/minus) |
| **Find exact words or phrases** | "" |
| **()** | () are ignored |
| | |
| **Search within a Site ("X-Ray")** | site: |
| **Search in URLs** | inurl: |
| **Search in Titles** | intitle: |
| **Search in Body** | intext: |
| **File types** | filetype: |
| **Wildcard (one or more whole words)** | * (only works inside ""s) |

# Hack #1. Emoji Search on Google

- Find contact info by Googling for "☎" OR "☏" OR "✆" OR "📞" OR "📱" OR "✉" OR "📧" -intitle:☎ -intitle:☏ -intitle:✆ -intitle:📞 -intitle:📱 -intitle:✉ -intitle:📧

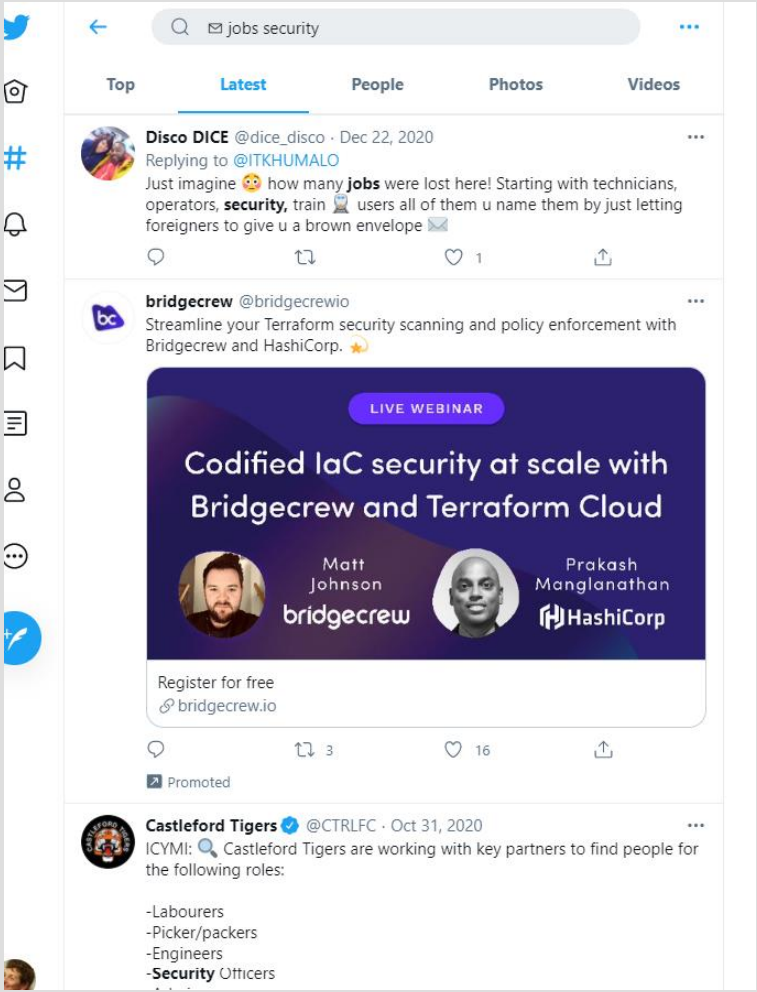
- Works because Google does search by emojis



# Twitter Emoji Search ☺

- Note that you cannot find emoji on LinkedIn, but you can on Twitter:

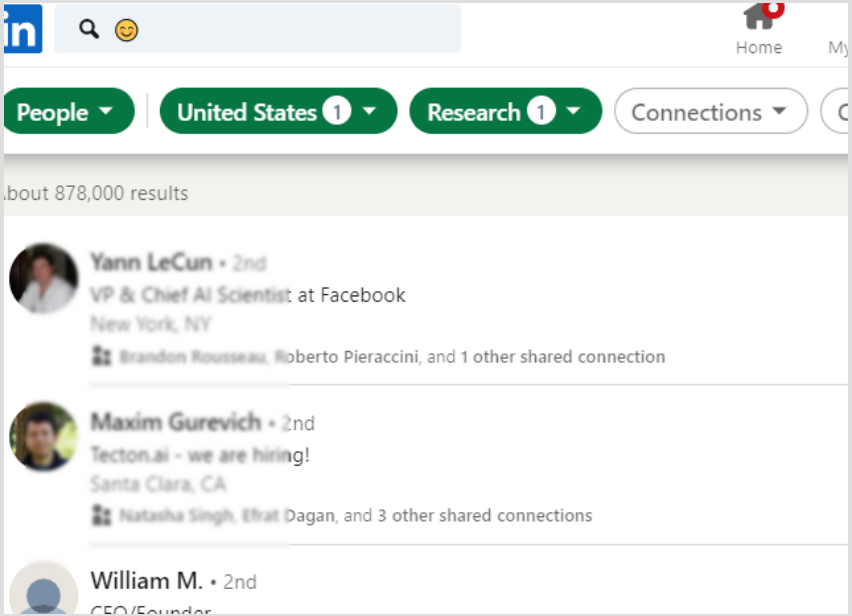
- "☎ 415"
- ✉ jobs security



## Emjois on LinkedIn ☺

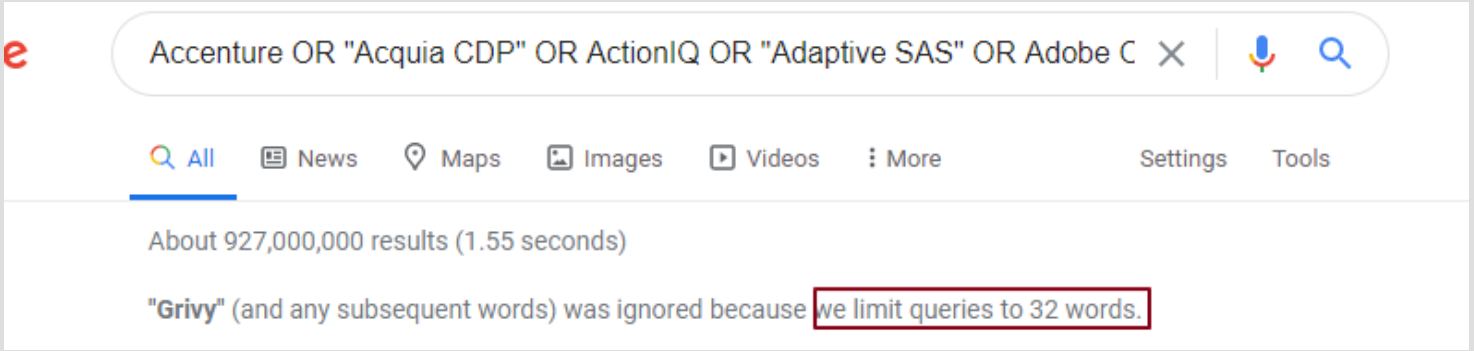
- On LinkedIn, search *with no restrictions* by using an emoji – officially impossible (i.e., searching for a symbol finds every profile)

- (As a side note, the latest LinkedIn people search avoids your first connections as long as it can)



## Hack #2. 10X Your Search Terms on Google with CSE Synonyms

- Google has a limit of **32** keywords
- Cases, where we want more terms, include searching for *lists of terms* such as schools or target companies
- Custom Search Engine's Synonyms mechanism is a way to overcome the limit of 32



## Google Custom Search Engines - CSEs

- Google Custom (now, "Programmable") Search Engines is a software layer on top of Google.com, filtering results for customized output
- Create at [cse.google.com](cse.google.com)
- Run at a generated (shareable) public link

- CSEs allow to define keyword synonyms – we will use this mechanism to push Google's keyword limit

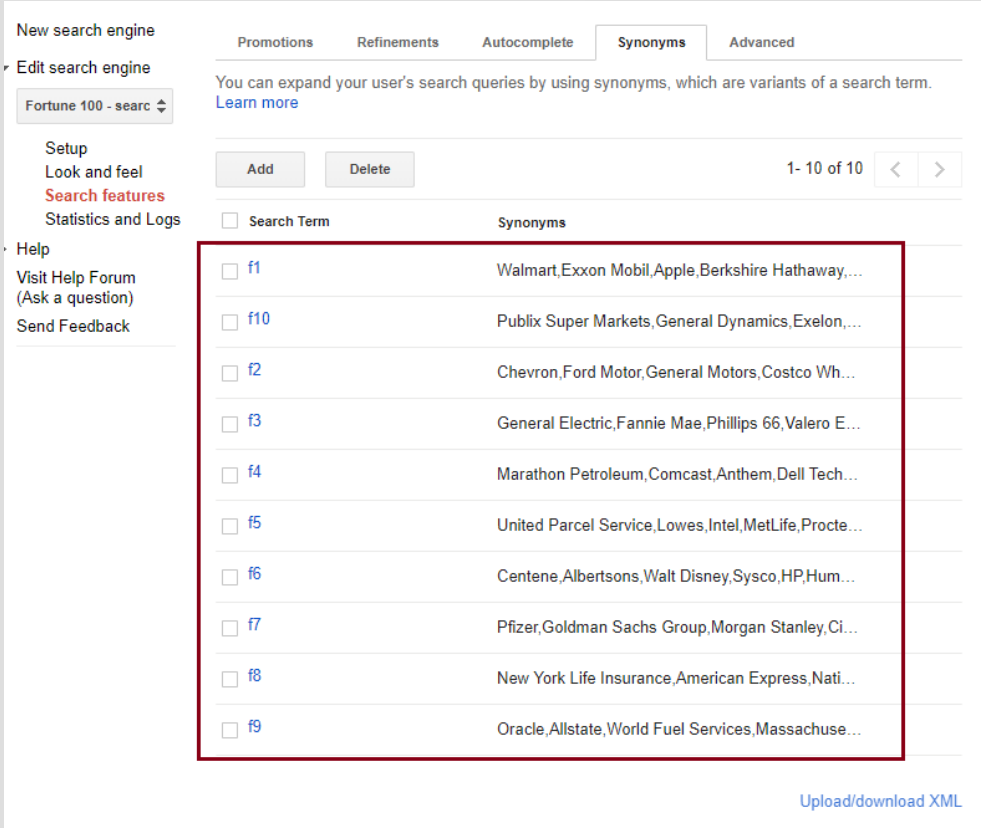
- I will also talk about CSE operators at the end

# Synonyms

*"When I use a word,"* Humpty Dumpty said, in rather a scornful tone, *"it means just what I choose it to mean - neither more nor less."*

# Defining Synonyms

- Google *will* automatically search for synonyms - it is its "built-in" feature
- However, if you want to include related words that may not quite be considered synonyms, the CSE Synonyms mechanism accommodates that



# How to Use Synonyms for Long ORs

1) Define f1 to have 10 synonyms from the list of your terms to search; f2, the next 10 words, etc.
2) Set the CSE to append this string automatically: f1 OR f2 OR f3 OR f4 OR f5 OR f6 OR f7 OR f8 OR f9 OR f10
3) The appended string is a logical OR for 100 terms (in this case) – you can go to 500!

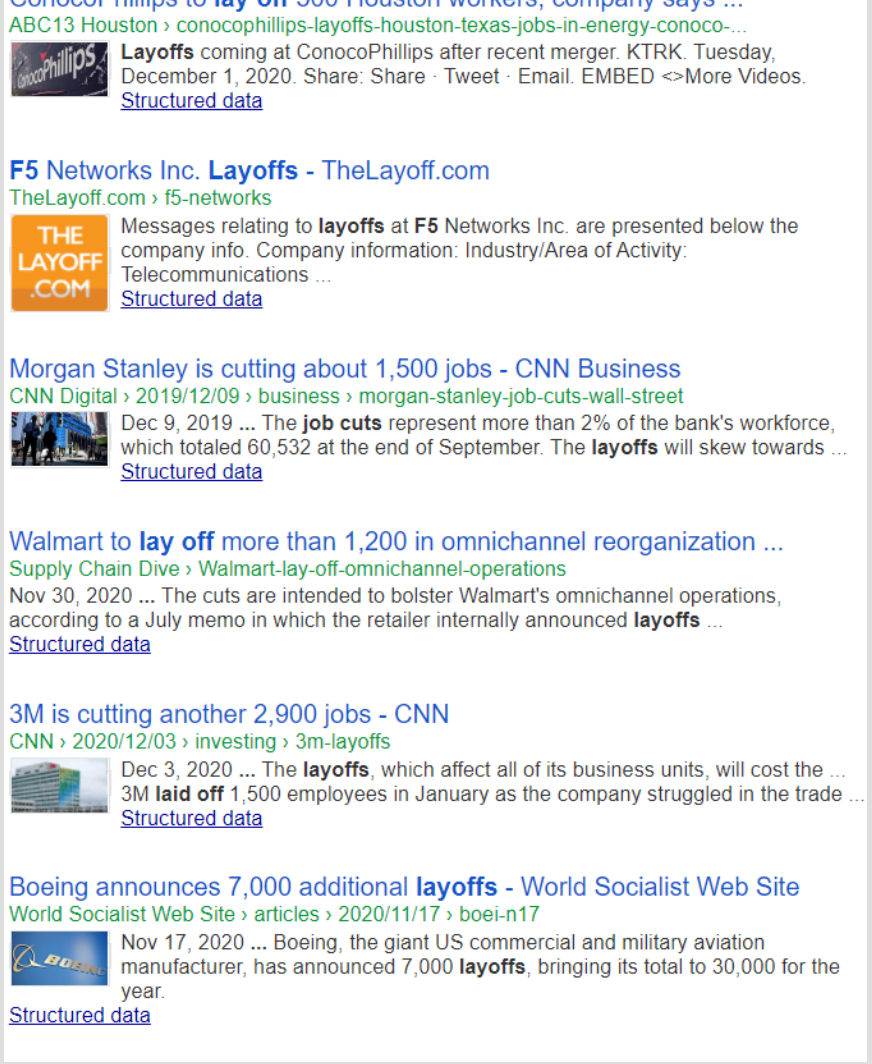
Fortune 100 Companies

This CSE auto-appends a long OR of Fortune 100 company names to the end-user search

```
<?xml version="1.0" encoding="UTF-8"?>
- <Synonyms total="10" num="10" start="0">
  - <Synonym term="f1">
      <Variant>Walmart</Variant>
      <Variant>Exxon Mobil</Variant>
      <Variant>Apple</Variant>
      <Variant>Berkshire Hathaway</Variant>
      <Variant>Amazon.com</Variant>
      <Variant>UnitedHealth Group</Variant>
      <Variant>McKesson</Variant>
      <Variant>CVS Health</Variant>
      <Variant>AT T</Variant>
      <Variant>AmerisourceBergen</Variant>
    </Synonym>
  - <Synonym term="f2">
      <Variant>Chevron</Variant>
      <Variant>Ford Motor</Variant>
      <Variant>General Motors</Variant>
      <Variant>Costco Wholesale</Variant>
      <Variant>Alphabet</Variant>
      <Variant>Cardinal Health</Variant>
      <Variant>Walgreens Boots Alliance</Variant>
      <Variant>JPMorgan Chase</Variant>
      <Variant>Verizon Communications</Variant>
      <Variant>Kroger</Variant>
    </Synonym>
  - <Synonym term="f3">
      <Variant>General Electric</Variant>
      <Variant>Fannie Mae</Variant>
      <Variant>Phillips 66</Variant>
      <Variant>Valero Energy</Variant>
      <Variant>Bank of America</Variant>
      <Variant>Microsoft</Variant>
      <Variant>Home Depot</Variant>
      <Variant>Boeing</Variant>
      <Variant>Wells Fargo</Variant>
      <Variant>Citigroup</Variant>
    </Synonym>
  - <Synonym term="f4">
      <Variant>Marathon Petroleum</Variant>
      <Variant>Comcast</Variant>
      <Variant>Anthem</Variant>
      <Variant>Dell Technologies</Variant>
      <Variant>DuPont de Nemours</Variant>
```

## Example Search (Fortune 100)

- Searching for "layoffs" finds pages that mention layoffs and at least one Fortune 100 company (typically, just one)



# Women's Names (LinkedIn)

competetive intelligence

About 343,000 results (0.65 seconds)

Emily Walker - **Competitive Intelligence** Analyst | Co-Leader of ...
www.linkedin.com › emilymarkets

The secret sauce to her success is using a unique combination of extr
empathy and analytical thinking. Emily has been a community organiz
Orlando for ...
Structured data

Natalie Casey - Senior **Business Intelligence** Engineer - AWS ...
www.linkedin.com › nataliefcasey

In doing so, she is eager to get involved with new projects and ideas a
highly engaged with both her client and internal teams. I've seen Nata
...
Structured data

Victoria R. - Senior Marketing **Intelligence** Manager - Greenberg .
www.linkedin.com › vrichard4

I am also an accomplished public speaker on **competitive** and marke
**intelligence** , leadership, storytelling, and women's empowerment in
workplace. Skills: ...
Structured data

Elizabeth Roberts - Global Head of Information Management ...
www.linkedin.com › elizabethdroberts

I worked closely with Elizabeth at Ericsson. She runs the Business an
**Competitive Intelligence** department smoothly, She lets everyone di
tasks, and ...
Structured data

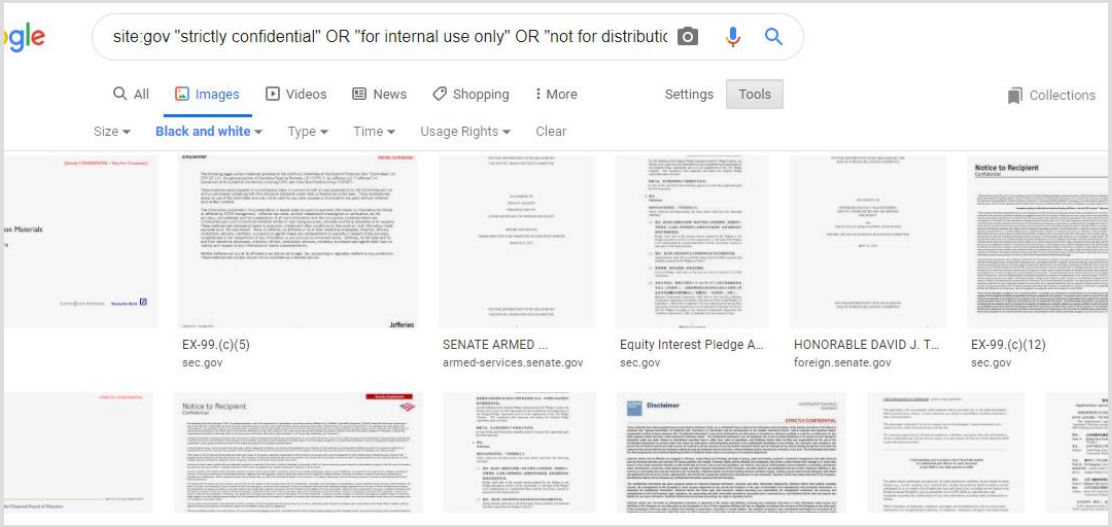
Elizabeth Frank - **Competitive Intelligence** Analyst - Dechert LLP
www.linkedin.com › ...
Society of American Archivists: **Business** Archives Section · Legal Marketing Tech
Forum · Women Should Network Too! · Non-Profit Marketing · Pratt Institute.
Structured data

Emily Missner - **Competitive Intelligence** Analyst - Dechert LLP ...
www.linkedin.com › emily-missner-43470645

View Emily Missner's profile on LinkedIn, the world's largest professio
community. Emily has 4 jobs listed on their profile. See the complete p
LinkedIn ...
Structured data

# Hack #3. Find Documents in Images

- Some document storage sites include an image of each public document along with the content (SlideShare is an example)
- Example search in Images: site:gov "strictly confidential" OR "for internal use only" OR "not for distribution“ ;)



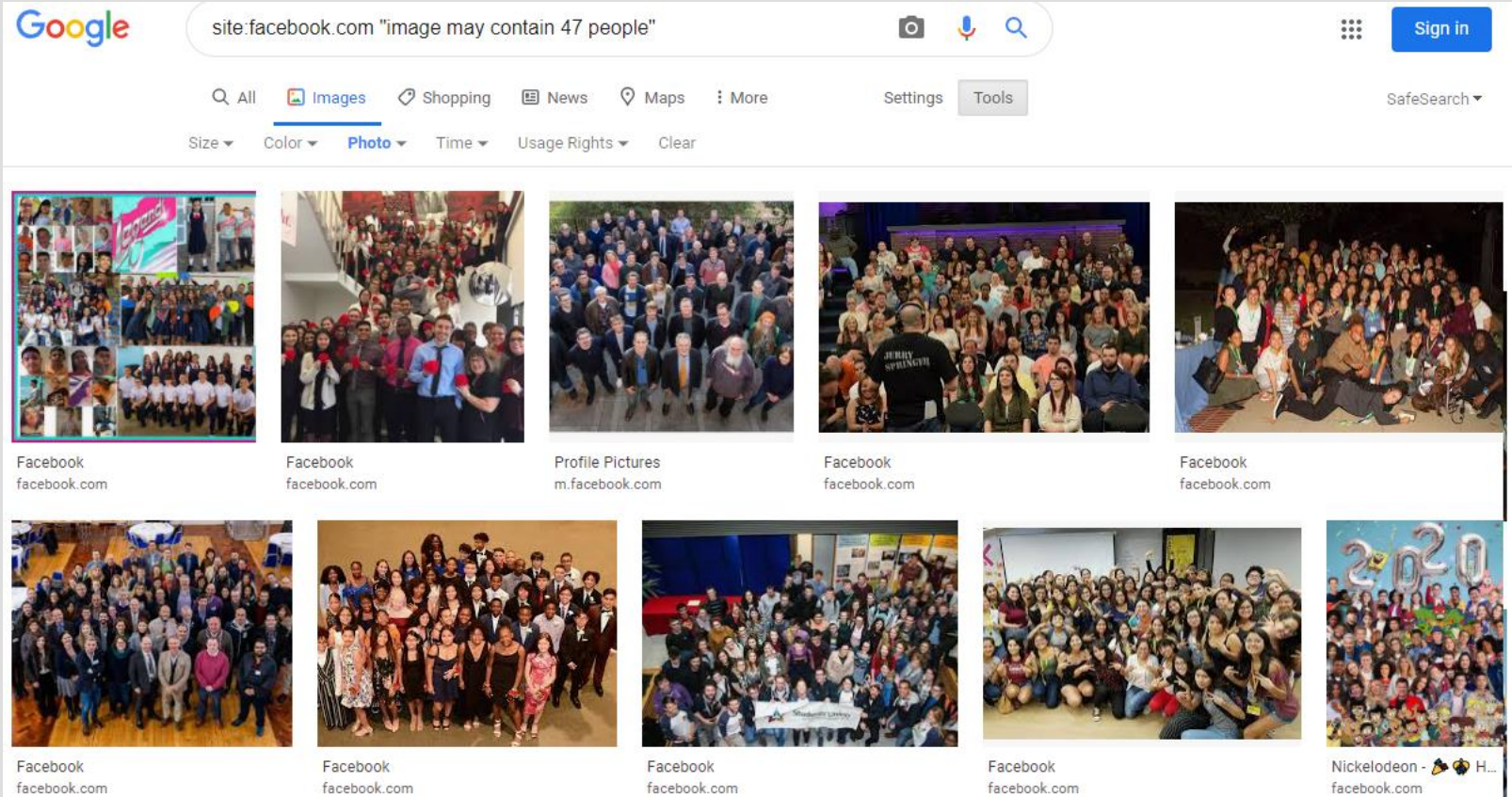
# Hack #4. Facebook Photo Discovery

- Facebook interprets photos and inserts the interpretation text into its public pages HTML code
- Googlebot indexes these interpretation phrases

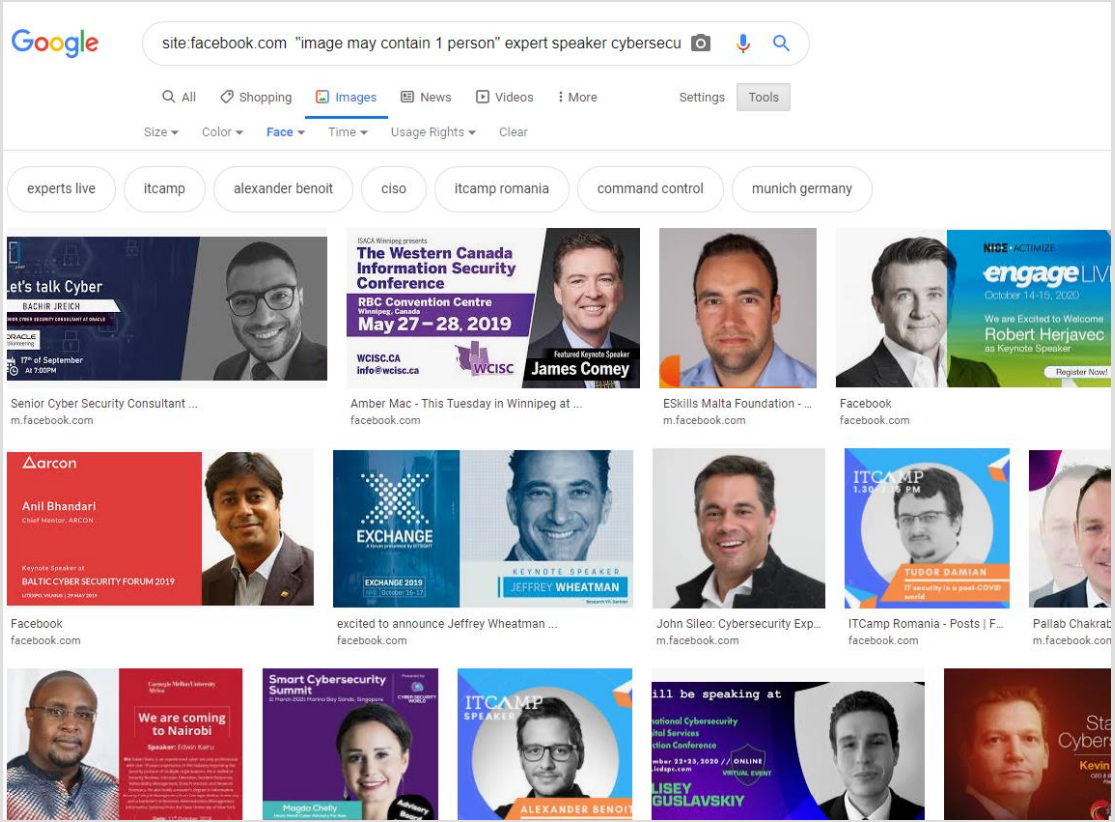
- The two Facebook phrases most common for tagging photos are:

1. *"Image may contain… "*, for example, *"image may contain 7 people"*
2. *"Text that says,"* for example, *"text that says right to left"*

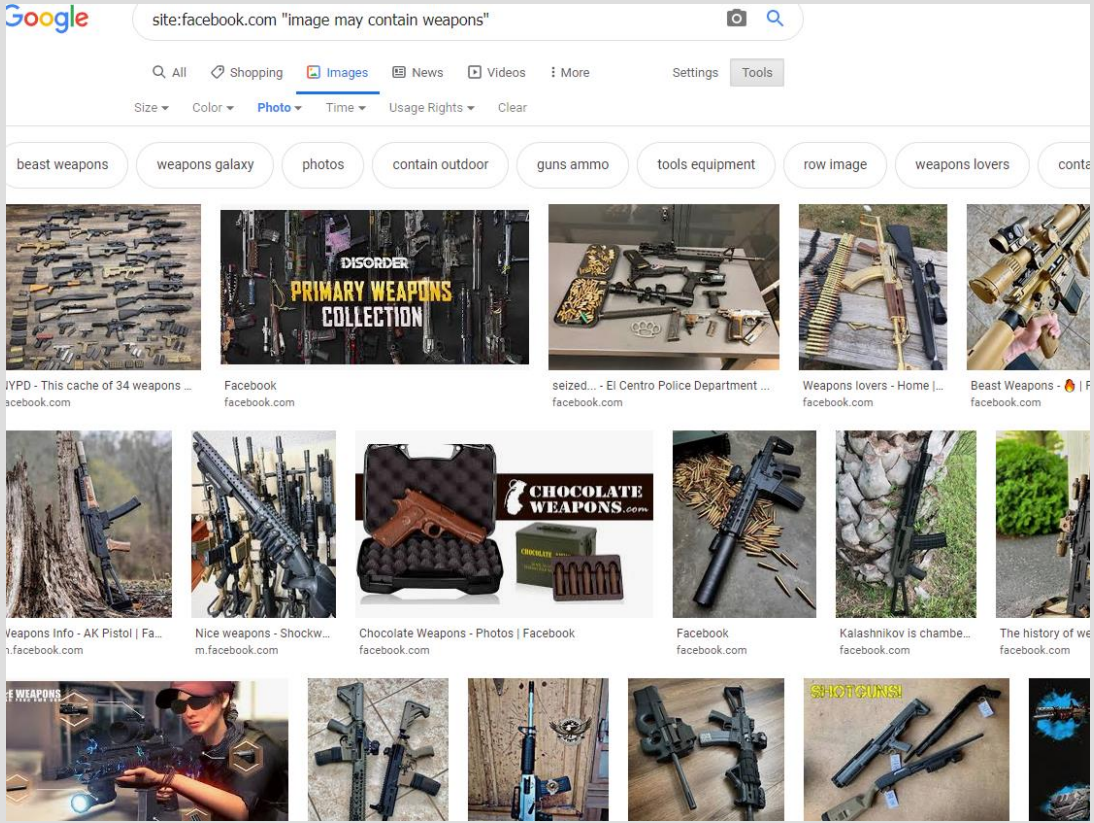
# Facebook Counts People Precisely!



# Find People and Events in Facebook-shared Photos

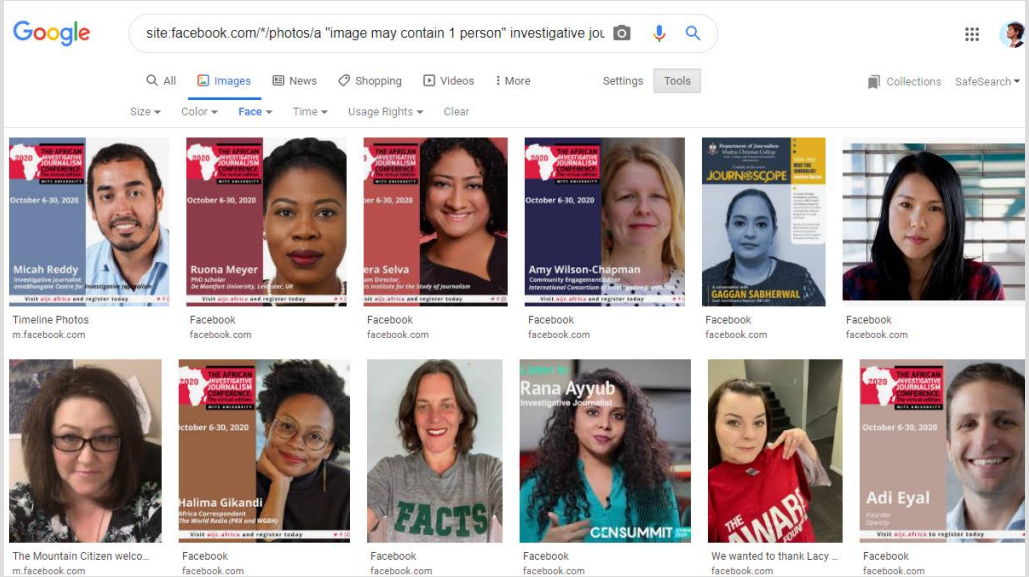


# Find Other Objects



# How to Find Individual Photos, Not Pages

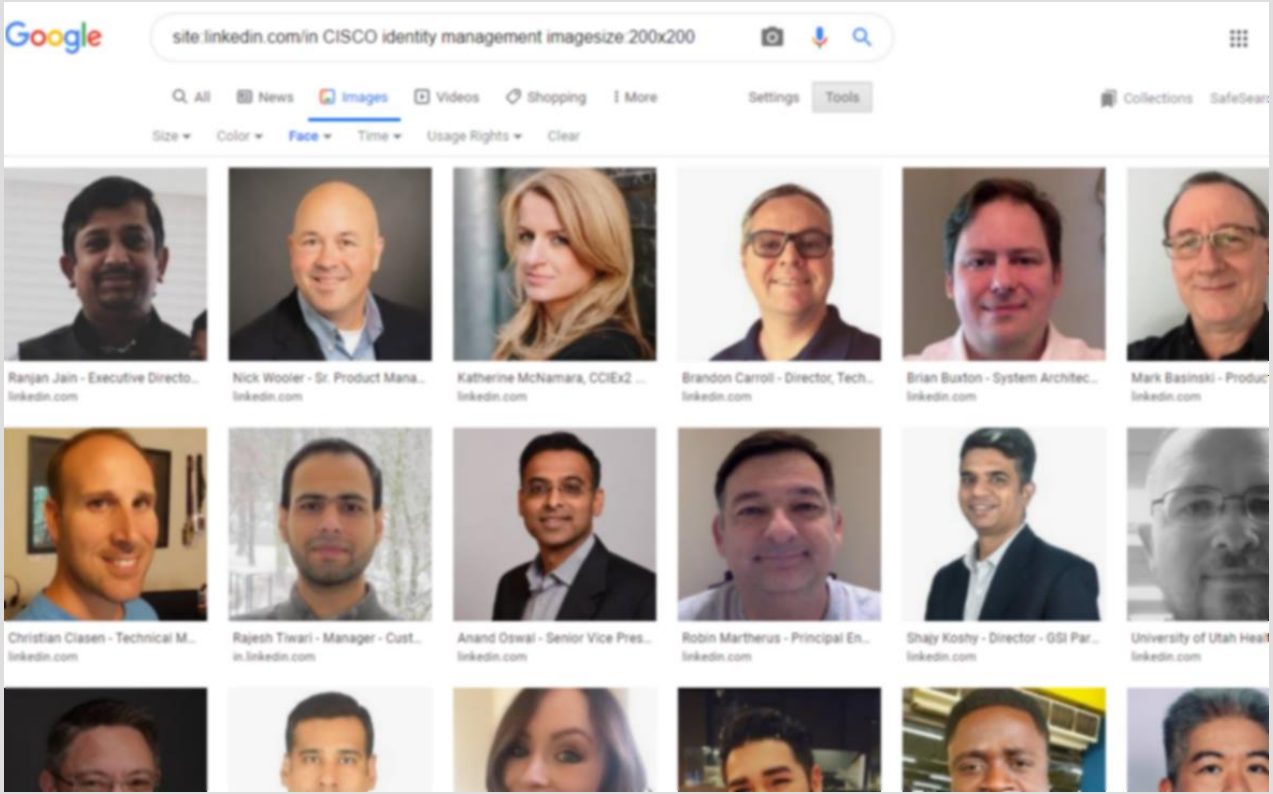
- *site:facebook.com/*/photos/a*
- site:facebook.com/*/photos/a "image may contain 1 person" investigative journalist



# The Number One Reason to Source in Images

- *Search in images produces more clickable results than "all" search* (e.g., 800 vs. 350)

- It mostly produces complementary results!



# Images Form a Separate Database

- *"Images, Videos, News, Web, Scholar (etc.) are all in separate indices. Normally we **blend** all of the results together, which is why you'll see images in a query. BUT if you search "All" for image filetypes, you won't find them because they're in a separate index."* (from Dan Russell of Google)

# Hack #5. Search in Images for 3x Results

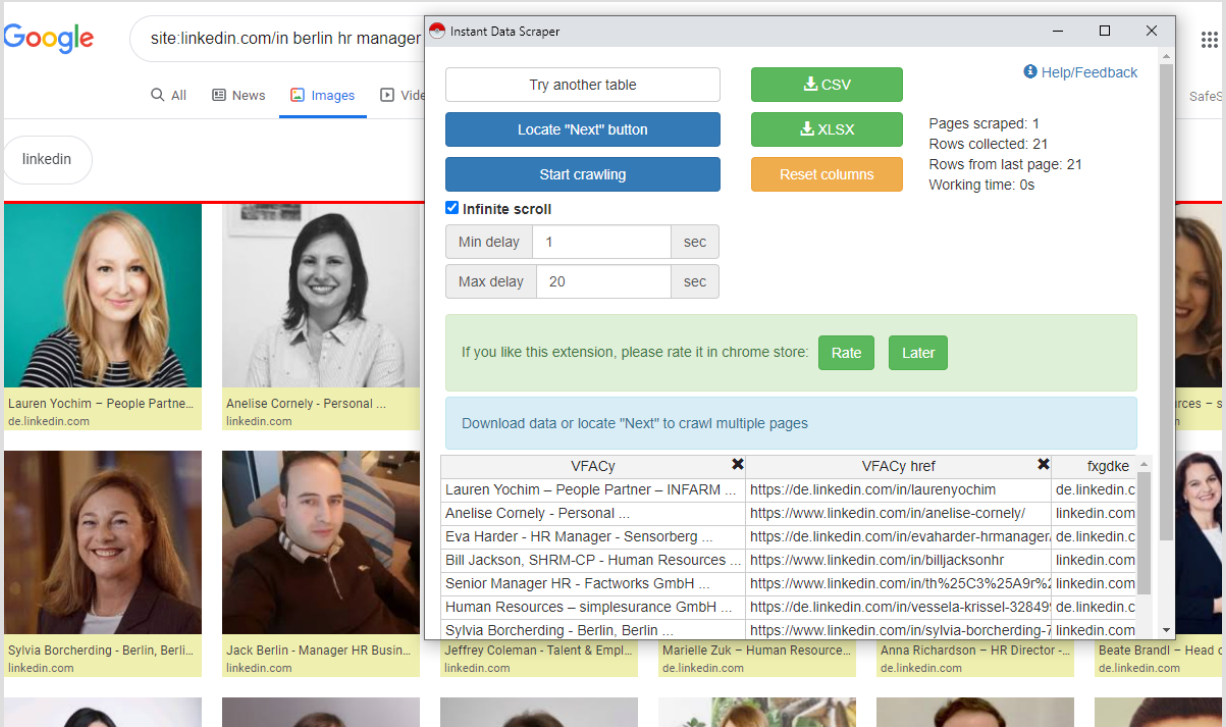
Example:

- site:www.linkedin.com/in "registered nurse" dallas tx
- site:www.linkedin.com/in "registered nurse" dallas tx imagesize:200×200

- Google search = **350** profiles
- Image search = **800**
- Results overlap = **14**
- Total = **1,100** profiles

# Collect & Combine Results from Google and Images

- Use (for example) [Instant Data Scraper] – export into Excel, then deduplicate and filter



# Get All Results in One Set

- Example results from image search:

| Page Title | URL |
|---|---|
| Aakriti Verma – University of Mannheim ... | https://de.linkedin.com/in/aakritiv |
| Omar Abd El Hai – Self Employed ... | https://de.linkedin.com/in/abdelhai/en |
| Abhijit Agarwal – Engineering Manager ... | https://de.linkedin.com/in/abhijit148 |
| Sales Coordinator – Terrapin PA ... | https://de.linkedin.com/in/abram-williams-4132b896/de |
| Adam Smith – Senior Product Marketing ... | https://de.linkedin.com/in/adamlawrencesmith/de |
| DICK'S Sporting Goods ... | https://de.linkedin.com/in/adamrevetta/de |
| Addie Anderson – Product Marketing ... | https://de.linkedin.com/in/addieanderson/de |
| Lin Shi – Sales And Marketing Analyst ... | https://de.linkedin.com/in/aerinshi |
| Agata Maslowska – Product Owner Digital ... | https://de.linkedin.com/in/agata-maslowska-85571559 |
| Ahmed Elsoudy – Ad Ops Manager ... | https://de.linkedin.com/in/ahmedaelsoudy/de |
| Aindrila Sarkar Bandyopadhyay – Digital ... | https://de.linkedin.com/in/aindrila-sarkar-bandyopadhyay-3695a482/de-de |
| Aji Issac - CEO Techshu.com – CEO & Co ... | https://de.linkedin.com/in/ajinimc/de |
| Ajmal Hussain Shaik – SRH Hochschule ... | https://de.linkedin.com/in/ajmalshaikhussain |
| Content Marketing Manager Tires EMEA ... | https://de.linkedin.com/in/akonetz |
| Alberto Valdeolivas Urbelz ... | https://de.linkedin.com/in/alberto-valdeolivas |
| Account & Digital Marketing Manager ... | https://de.linkedin.com/in/alessandro-pugliese-7b383512/de |
| Global Digital Product Manager ... | https://de.linkedin.com/in/alexa-anastassi-07417434/de |
| Alexander Humphrey – Junior SEO On-Page ... | https://de.linkedin.com/in/alexander-humphrey-063aa9166 |
| Alexander Jansen – Consultant – umlaut ... | https://de.linkedin.com/in/alexander-jansen-4b8160131 |
| Alexander Pauls – Lecturer for Digital ... | https://de.linkedin.com/in/alexander-pauls |
| Alexander Prietz – Performance ... | https://de.linkedin.com/in/alexander-prietz-6b36b993 |
| Alexander Rodionov – Online-Marketing ... | https://de.linkedin.com/in/alexander-rodionov-a26b4b174 |
| Alexander Vukcevic – Director ... | https://de.linkedin.com/in/alexander-vukcevic-2975308 |
| ALEXANDRU ARABADJI – Online Marketing ... | https://de.linkedin.com/in/alexandru-arabadji-187699189 |
| Search Engine Marketing Manager ... | https://de.linkedin.com/in/alexbonvechio/de |
| Alex Gygax – Head of Operations ... | https://de.linkedin.com/in/alexgygax/de-de |
| Helle Creative ... | https://de.linkedin.com/in/alexlaval/de |
| Ali Ahsan – Media Analyst – MediaSense ... | https://de.linkedin.com/in/ali-ahsan-59040278/de |
| Alice Bron – Global Social Lead - Webex ... | https://de.linkedin.com/in/alicebron/de |
| Alice O'Brien – Content Management ... | https://de.linkedin.com/in/alice-o-brien-4a9561187 |
| Ali Makarachi – Transportation Modeling ... | https://de.linkedin.com/in/alimakarachi/de |

## Hack #6 Combine Reverse Image Search and *site:*

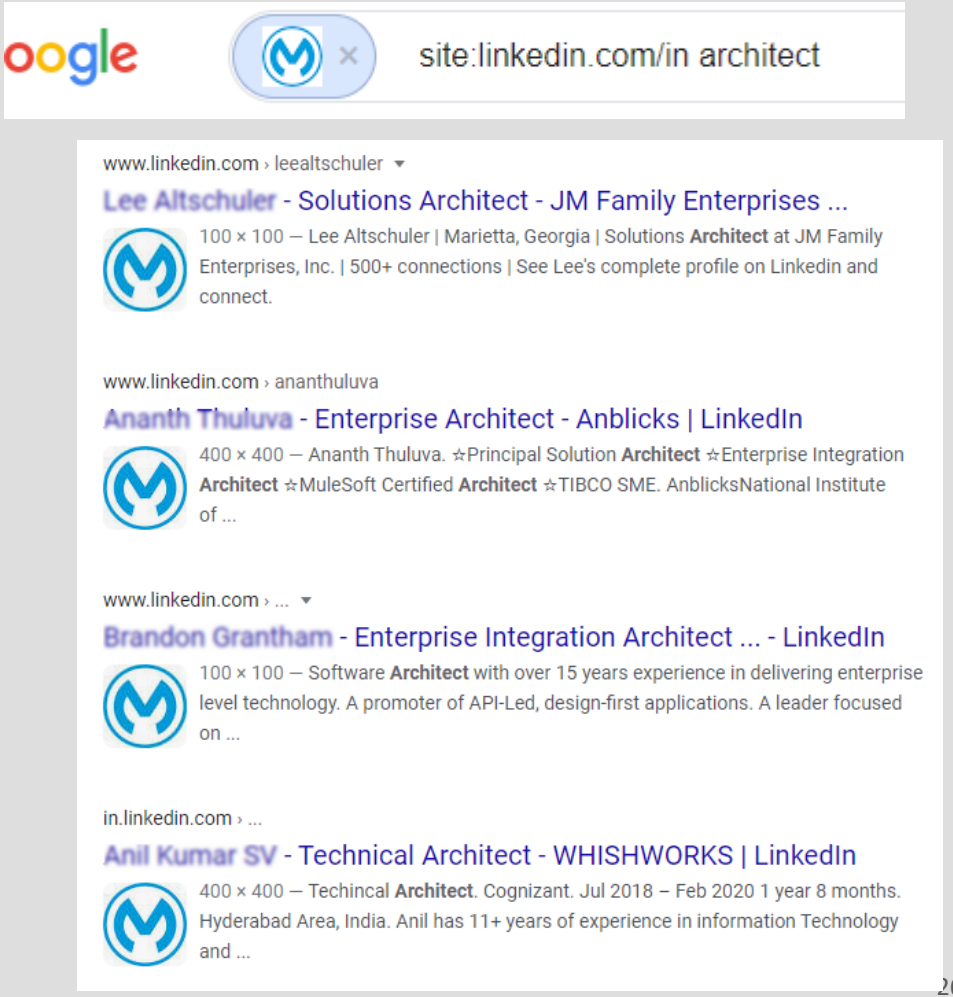
- Google Image Search works with most search operators, including *site:*
- Google Image Search has its own operator *imagesize:*

- In Image Search, you can combine Reverse Image Search *and* a search string -
- To locate copies of the original image on a given site, or on pages including search terms
- Example applications follow

# Find Company Employees

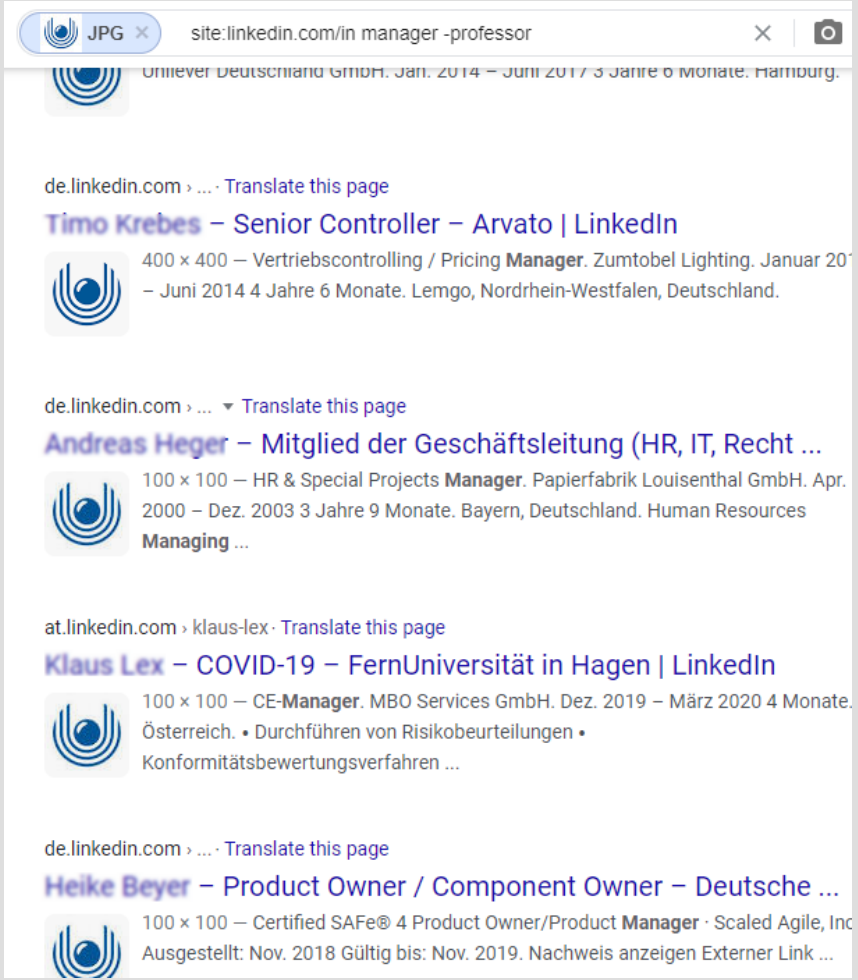
- Search by a company logo combined with LinkedIn X-Ray to find members by current or past employees

- (Use the same logo as the company's LinkedIn page)



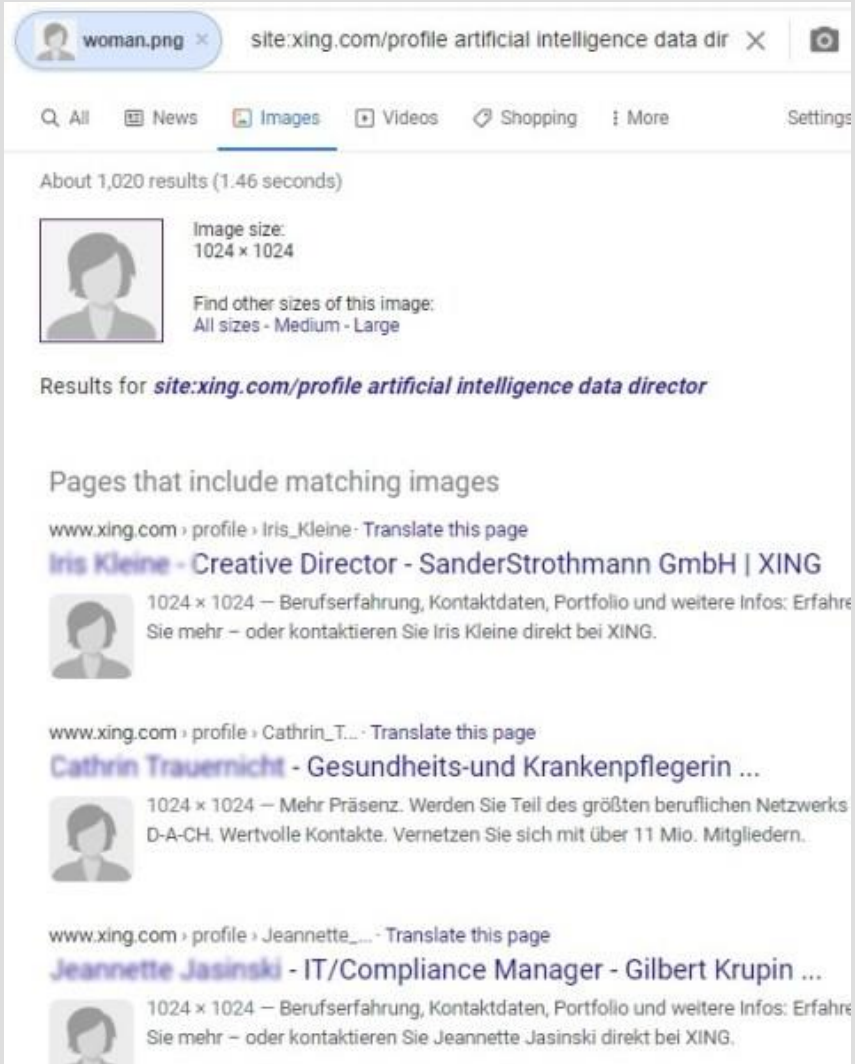
## Find School Graduates

- Search by a university logo combined with LinkedIn X-Ray to find grads



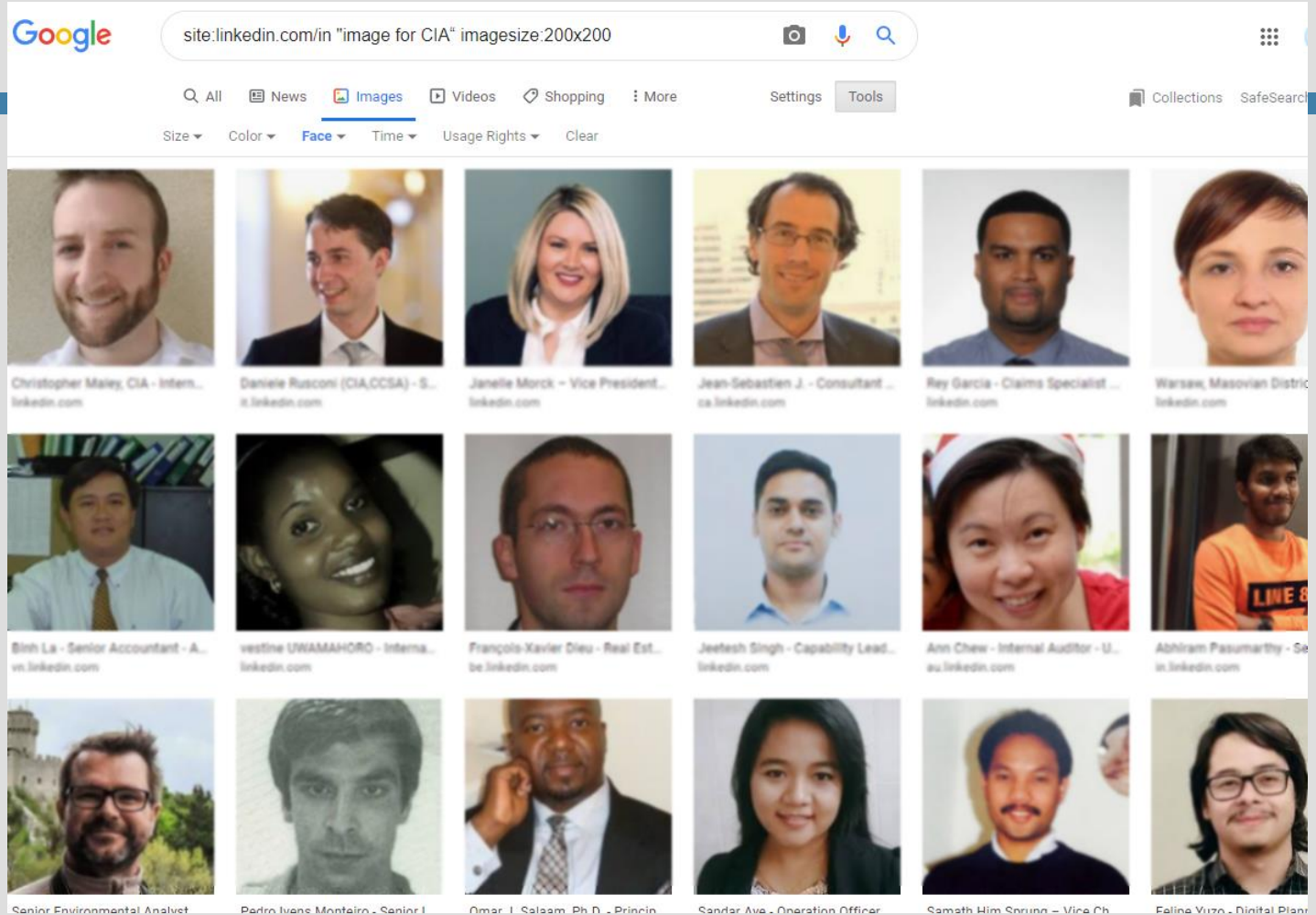
# Find Women on XING

- Find female XING members with no profile picture:



# Hack #7. The "Image for" LinkedIn X-Ray

- Template: site:linkedin.com/in "image for <type of content>"
- Data you can search for is the same as for combining reverse image search with the *site:* operator:
    - Companies
    - Schools
    - Associations
    - Certifications
    - Groups
    - Posts, shares, and likes

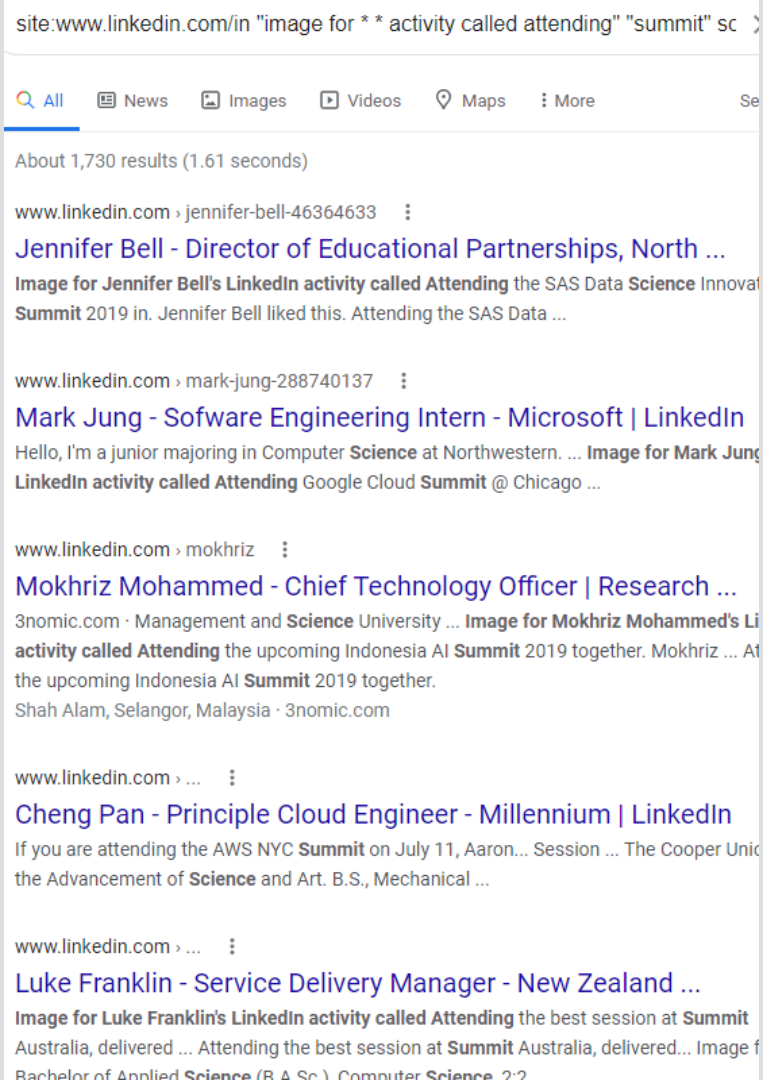

Google
site:linkedin.com/in "image for CIA" imagesize:200x200
All
News
Images
Videos
Shopping
More
Settings
Tools
Collections
Size
Color
Face
Time
Usage Rights
Clear
Christopher Maley, CIA - Intern...
linkedin.com
Daniele Rusconi (CIA,CCSA) - S...
it.linkedin.com
Janelle Morck – Vice President...
linkedin.com
Jean-Sebastien J. - Consultant ...
ca.linkedin.com
Rey Garcia - Claims Specialist ...
linkedin.com
Warsaw, Masovian Distric
linkedin.com
Binh La - Senior Accountant - A...
vn.linkedin.com
vestine UWAMAHORO - Interna...
linkedin.com
François-Xavier Dieu - Real Est...
be.linkedin.com
Jeetesh Singh - Capability Lead...
linkedin.com
Ann Chew - Internal Auditor - U...
au.linkedin.com
Abhiram Pasumarthy - Se
in.linkedin.com
Senior Environmental Analyst
Pedro Ivens Monteiro - Senior I...
Omar I. Salaam, Ph.D. - Princip...
Sandar Aye - Operation Officer
Samath Him Sprung – Vice Ch...
Feline Yuzo - Digital Plan

# X-Ray LinkedIn for Certifications

- site:de.linkedin.com/in "image for Certified Information Systems Security Professional"
- Other examples:
  - E-Commerce UX Professional
  - Financial Planner
  - Ethical Hacker
  - Patent Examiner
  - Legal Translator
  - Women's Business Enterprise
  - LabVIEW Associate Developer

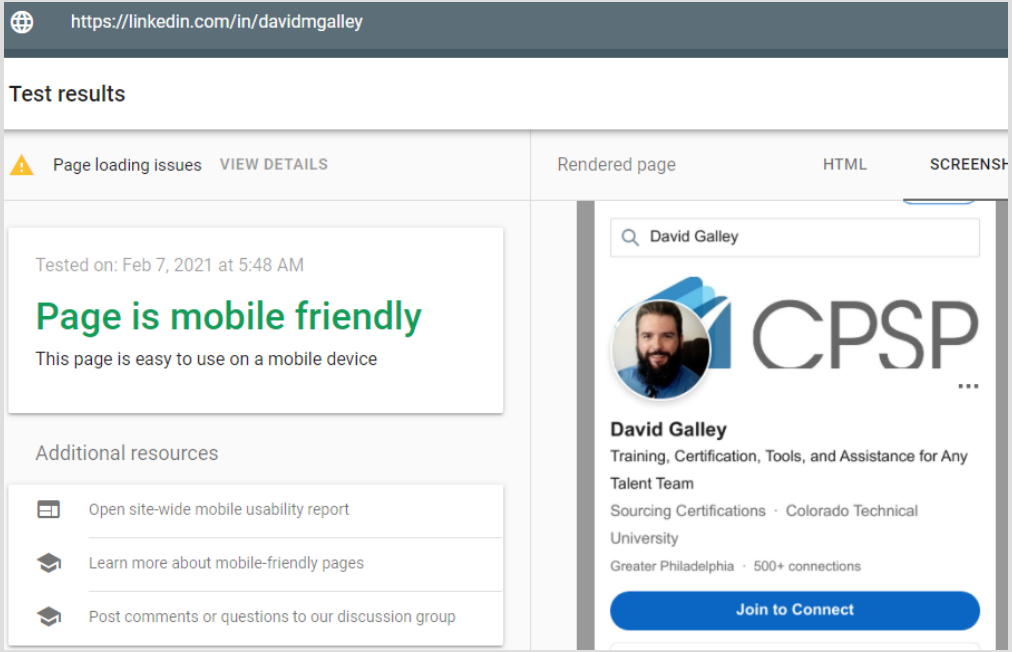
# LinkedIn X-Ray for Shares

- site:linkedin.com/in "image for * * activity called <your keywords>"

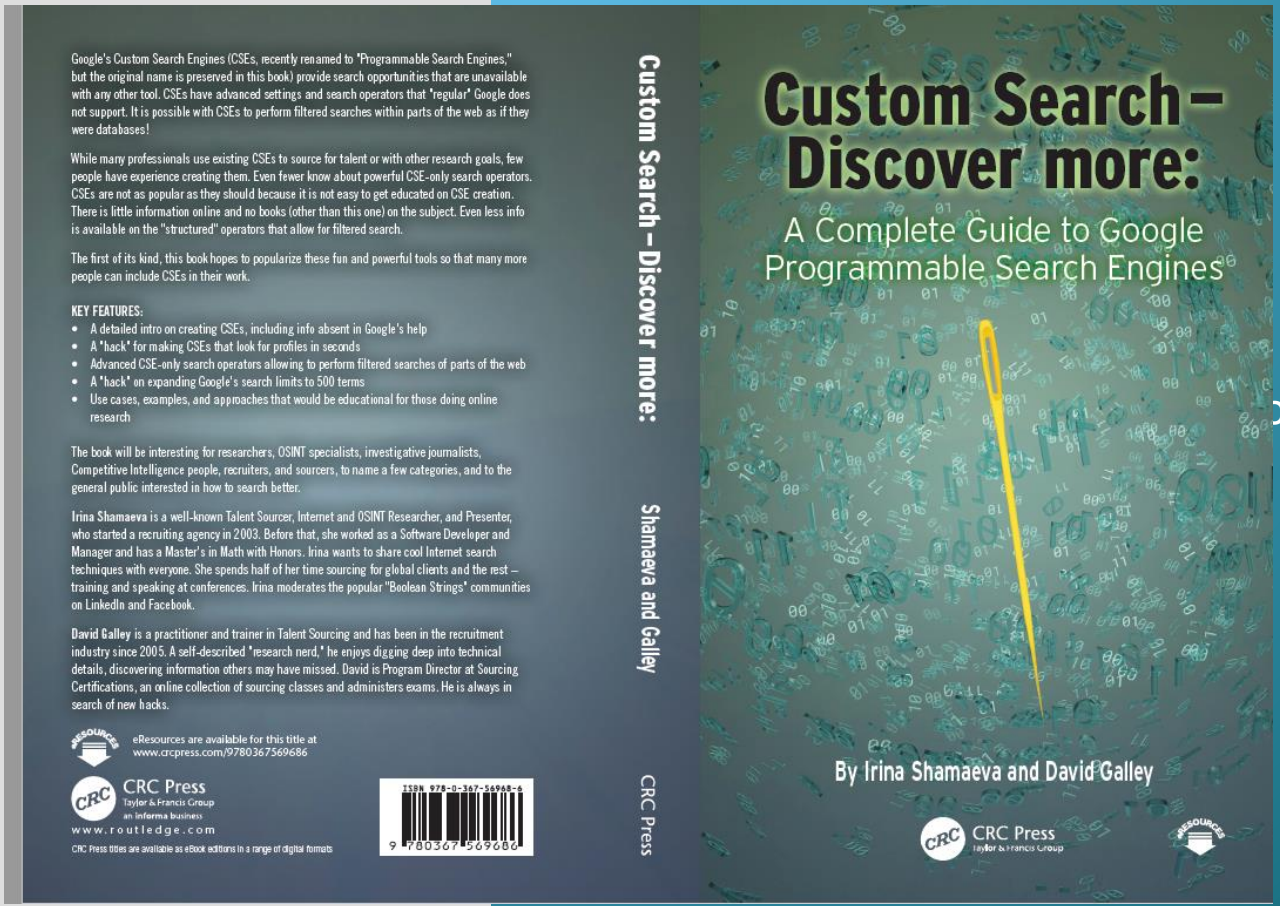


# Hack #8. LinkedIn Profiles in Incognito

- LinkedIn prevents us from seeing profiles in incognito after the first few
- To overcome, use [Google's Mobile-Friendly Test]



# Upcoming CSE Book (April 2021)




- Slides [http://bit.ly/OSINT-LinkedIn-Google](http://bit.ly/OSINT-LinkedIn-Google) contain an Appendix on CSEs

# Thank You! Questions?

**Meet me in Slack now ☺**

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- Training and Certification sourcingcertification.com
- Diversity Training and Certification sourcingcertification.com/diversitycertification
- Tool Social List sociallist.io