

Search Internet like a Pro

(using Google) by Eibert Draisma

Introduction

When searching on internet, try *'to think like a reporter'*:

- What are you looking for?;
- What do you know?;
- How can that information help you, to find what you are looking for?;
- How and where might 'what you are looking for' be documented?;
- What to ask, to find 'what you are looking for'?;
- Who would know more about the issue?.

What is a 'query'?

- A request for information, entered by users into a web search engine, is called a *query*;
- A query consists of one or more keywords, numbers or phrases, that you hope you will find in the search results listings;
- To enter a query, type keywords into Google's search box. Use the search box on Google's home page, or the search box that always appears at the top of a Google results page.

Define what you are looking for

- What do you need to know, and why? Try to be as precise as possible!

Ask the right questions

Knowing what questions to ask, is critical to finding exactly what you are looking for:

- Where can you find the right answers? (research institutes, social media, newsgroups, usenet, patent sites, encyclopaedias online -such as [Britannica](#)-, online libraries etc.);
- What kind of answers do you need?
 - Anecdotal information?
 - Historical background?
 - Statistical data?
 - Technical specifications?
 - Corroboration from multiple sources?;
- What questions to ask, to get the right answers?;
- Do you want to know a lot about a little, or a little about a lot?;
- How up-to-date must the information be?

Choose the right keywords

- Knowing which words to search for, means understanding their meaning. Typing **define:keyword** in Google search, will offer dictionary definitions;
- Take enough time to write down a list of interesting, relevant keywords (search terms);
- What if you know descriptions, but not the actual word? Find one of the many *reverse dictionaries* online. Next, type the descriptions you know, and you'll get the matching words;
- Use adjectives that will lead to less common search results (e.g. 'spectacular', 'fabulous', 'fascinating', 'extreme', 'high tech', 'fundamental', 'essential' etc.);
- Use at least two or three search terms to narrow your results;
- Use phrases in the search box in addition to single word search terms.

Guess how others would write about your topic

- Think about equivalent terms and use the Boolean **OR** operator (see: Boolean search options);
- Try replacing your original search words by all synonyms you can think of;
- For a related search or to find a synonym, put the tilde operator **~** in front of your keyword (without a space). The tilde operator, searches for related words: not just the word you type. Typing **~geek**, you will find search results with "geek" or with words similar to "geek";
- Google's "related search" feature on the search page also offers suggestions;
- Even if you are looking for text only, now and then try an image search, to see what shows up.

Use quotes to search for phrases

- Typing **“talking coffee maker”**, will *only* show websites with the phrase “talking coffee maker”;
- If you don’t use quotes, Google will search for the terms “talking”, “coffee” and “maker” individually, and you might miss pages related to a coffee maker that really talks.

Use Boolean search options (‘AND’, ‘OR’, ‘-’: also known as Search Operators)

Boolean logic refers to the logical relationship among search terms, and is named after the British-born Irish mathematician George Boole.

Boolean logic allows you to combine words and phrases into more defined queries; this can greatly improve your search results.

- To narrow your results, use **AND**
Use AND for search results that contain *both* (or more) of the terms you've entered.
So if you are interested in the relationship between poverty, crime and gender, type: **poverty AND crime AND gender**
- To broaden your results, use **OR**
Use OR for search results that contain *one or both* of the terms you've entered.
Using OR is great for finding synonyms and boilerplate language.
Typing **“Eibert denied” OR “Eibert claimed” OR “Eibert argued”** will find more pertinent websites about the controversy involving Eibert.
- To exclude a keyword from your results, use a **minus sign**
Type a minus sign in front of a keyword (without a space), for results without this keyword.
So if you’re looking for tropical fruits except bananas, type: **“tropical fruits” -bananas**
That will *only* search for the phrase “tropical fruits”, on web pages that *don’t have* the word “bananas”.

Refine your search

- Make sure to understand what your results mean: too many or too few results? not on topic?;
- When you retrieve too many results, narrow your search. Try adding another concept (search on three concepts instead of two); search for a phrase instead of two separate keywords; think of narrower terms, use subject related terminology or find a more relevant subject heading;
- When you retrieve too few results (or nothing), broaden your search: use more synonyms (combine with **OR**); use truncation and wildcards; think of broader terms; remove the least important concept (search on two concepts instead of three) or find a relevant subject heading;
- When results are not on topic, try searching on different keywords (consult a thesaurus if you haven’t already), or in a different database. Also try other search engines;
- Use the tips listed below.

How to force Google to include search terms?

Sometimes Google tries to be helpful and uses the word it *thinks* you’re searching for; not the word you’re *actually* searching for. And sometimes a website in the search results does not include all your search terms. How to fix this?

- Typing **intext:keyword** might be one of Google’s least-known search operations: it forces the search term to be in the body of the website;
- So if you type: **intext:“coffee maker” intext:Eibert**, Google is forced to show results with the phrase “coffee maker” and the word “Eibert”. You won’t get results that are missing either search term.

How to restrict your search to a specific website or domain?

- The search operator **site:URL** restricts your search to that particular website.
Suppose you want to find information about “brainstormers” on the site “eibertdraisma.nl” only.
Type: **site:eibertdraisma.nl brainstormers**
- You can also use the **site:** operator, to specify a domain. For example, if you’re looking for high-quality references, you could use **site:edu** to only pull up results from .edu domains.

How to search by region?

- If you only want web pages for a particular area, you can search *by region* on Google’s advanced search page.

• How to find related websites?

- The query **related:URL**, will list web pages that are *similar* to the web page you specify. For instance, **related:www.arduino.cc/** will list web pages that are similar to the Arduino home page. Note: don't include a space between **related:** and the web page url;
- You can also find similar pages from the "Similar pages" link on Google's main results page, and from the similar selector in the *Page-Specific Search area* of the Advanced Search page.

How to find a particular type of file?

- Typing **filetype:extension** is useful for limiting your search to particular types of files, such as PowerPoint presentations, pdf's, Word documents or any other file type you can imagine;
- Typing **filetype:xls** in a search, will show only spreadsheets. It's incredibly useful for finding public data;
- Be aware, that YouTube is only a subset of all the video services indexed by Google. Use <http://www.google.com/videohp>, to search all video services (and not just YouTube).

How to find a specific word or phrase on any (web) page?

- Type "**Control+F**" to find a specific word or phrase on any (web) page (on a Mac use "Command+F" or "Find" in the menu);
- If you don't know this, you're roughly 12 percent slower in your searches: it's much faster than reading the whole page or document!;
- Works in most documents!

How to find unknown words, names or numbers?

- The asterisk ***** is a wildcard that can match any unknown word, letter(s) or number. Use it to *guess* the word, letter(s) or number you are looking for. Some examples:
If you want to know what companies Google has purchased, and how much they paid, type this phrase: "**google purchased * for * dollars**"
If you Google the phrase "**music * my life**", results will contain phrases like "music *is* my life", "music *changed* my life" and "music *of* my life".
If you Google for **wom*n**, you will find results containing 'woman' or 'women', and **fund*** would find you pages that contain the words "fund", "funds" and/or "funding";
- If you're looking for a part of a machine or gadget but don't know the name of it, try including the term "diagram" in your search.
A search for "**bicycle diagram**", gives you tons of images with parts

How to limit the time frame?

- The little-known search operator **year..year** allows you to specify a specific time range. For example, use the following search to find results about Zambia from between 2008 and 2010: **Zambia 2008..2010**
- If you only want search results for web pages published in the past week, past month, or some other time frame, you can click on that option on the left-hand side of the Google search results page under "Show search tools" or "More options".

How to find relational search terms?

What if you're curious about search terms that are *near each other* on a website?

- **Keyword NEAR(n) otherkeyword** is incredibly handy for finding related terms such as "Eibert Draisma" near "jungle" ("n" is the number of words between the search terms.)
Typing **small NEAR business** would call up articles that contain phrases referring to "small and medium-sized business" which would not show up in a phrase search.
Typing "**Muppet Show**" **NEAR(3) Kermit** will show you all the websites, where the phrase "Muppet Show" was mentioned within three words of "Kermit."

Last but not least: always check the data you found

- Verify that the information you found, is relevant, factual, and (if necessary) up-to-date;
- Make sure the information is correct: if the (academic) credibility of data could be questioned, do not use it.

Summary of shortcuts

The advanced search commands listed below, will help you to narrow your searches, dig deeper into (previously hidden) content, and retrieve information quickly.

Use Google shortcut	To find... / example
digital AND phone	pages with the words digital <i>and</i> phone
swimming OR surfing	pages with the word swimming <i>or</i> surfing
washing -machine -ton	pages with the word washing but <i>not</i> the word machine nor the word Washington
“talking coffee maker” (phrase between quotes)	the exact phrase talking coffee maker
Control+F (or on Mac “ Command+F ”)	find a word or phrase on any (web) page
<i>~keyword</i> (keyword and synonyms)	~tutor will find you web pages with “tutor” <i>including</i> web pages with its synonyms
define:keyword (definitions of keyword)	define:autotonsorialist will find you definitions of the word autotonsorialist
site:URL keyword (find keyword on a website)	site:eibertdraisma.nl brainstormen
site:edu (specific domain search)	site:edu, site:gov, site:org etc.
site:country code (restrict search to country)	site:nl America (find America in Holland)
fund* (* is a wildcard)	the words fund, funds and/or funding
link:URL (find linked pages)	link:www.femtasia.nl
safesearch: (exclude adult content)	safesearch:breast cancer
info:URL (find info about a page)	info:www.arduino.cc/
related:URL (find websites related to...)	related:www.arduino.cc/
filetype:extension (search specific file type)	biology filetype:ppt (Power point files on biology)
allintitle: (find keywords in page title)	allintitle: nike materials (interesting!)
inurl:keyword (restrict search to URL)	inurl:pasta (find URLs containing “pasta”)
allintext:keywords (pages with all keywords)	allintext:Eibert Draisma robot coffee
intext:keyword (search word in body text)	intext:knipperfrotje
#...# (search within a number range)	Iphone €200...€300
book (search a book or text in book)	Book The Story of My Experiments
year..year (specify a specific time range)	Zambia 2008..2010
old in new (convert anything into anything)	45 euro in dollar or 45 candelas in lumen

Of course, search commands can be combined: experiment with this, to be even more efficient!

Example: **filetype:PDF intext:“Primary School” “build a robot” “climb obstacles”**

Links to sites offering advanced search options

- http://www.google.ca/advanced_search;
- <http://www.searchcommands.com/> More information about using search commands;
- <http://www.googleguide.com/> Searching tips and tricks;
- http://worldwide.espacenet.com/advancedSearch?locale=en_EP Search (in) patents worldwide. Espacenet offers free access to more than 70 million patent documents worldwide, containing information about inventions and technical developments from 1836 to today.
- <http://scholar.google.com/>
Google Scholar provides a simple way to broadly search for scholarly literature. From one place, you can search across many disciplines and sources: articles, theses, books, abstracts and court opinions, from academic publishers, professional societies, online repositories, universities and other web sites. Google Scholar helps you find relevant work across the world of scholarly research.