



## How to Find Anything Online

ARTICLE DATE: 05.27.03

By [Sean Carroll](#)

Searching through the petabytes of fact, fiction, and rumor that make up the World Wide Web is no mean task. It's like wandering through a library without a filing system or a card catalog. Portals like Yahoo! evolved as manageable entry points to this ever-growing repository. But even the best portals aren't doors into a virtual version of a library. They're doors out, from the safety of your information-barren home or office into a wilderness of pages, files, databases, and sites—too much ground for anyone to cover. That's where search engines come in.

While each search engine is different, they are more closely related than ever, as shown in the chart "Search Web." Classic search engines spider, or crawl, the Web, indexing and categorizing the data on each page they have access to or the metadata that describes it. Frequent crawling is important, given that the Web is growing fast. And the crawlers are getting smarter. Many can find and index at least some of the PDFs and other content types that make up much of the "Invisible Web," unseen by spiders' (and search engine users') eyes.

Given the vast amounts of information on any given subject, simply indexing is not enough. A search engine has to weight the pages so that the most commonly useful links come up first. There are several ways to do this, but the best-known is based on the popularity of each site, as represented by the number of other sites that link to it. This is a simple way of describing the techniques pioneered by Google and adopted in one form or another by many competitors.

While some detractors point out that this strategy may ultimately drive popularity instead of following it, Google's success is undeniable: It's a household name. Who among us hasn't Googled?

Yet even Google has a long way to go. The latest challenge is the Deep Web, which represents data that can't be crawled, not because it's in pages that the spiders can't recognize, like PDFs, but because it doesn't exist in static page form (except as answers to database queries), or because it's hidden behind authentication screens. And this information is often the cream of the crop: magazines, books, peer-reviewed journals. To get to it, you need to research the database content yourself and then pay a hefty fee or, ironically, you need to go to a modern library (they're not so quaint and irrelevant, after all) that has access and, ideally, a reference librarian to help you get started.

In the pages that follow, we offer reviews of five popular general-purpose search engines. We also provide tips to help you get the most out of any search engine, a list of sites giving you entry into the Deep Web (see the sidebar "Niche Search"), and a kit of software and Web tools that will support you in your search for information.

## Google

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Reviewers may overuse the word uncanny to describe Google's talent of finding what you're looking for. In testing, we found Google a consistently fine performer—unsurprising given that it provides so much content to so many other engines. We were surprised, however, that it no longer dramatically outperformed its competitors. Still, it stands ahead of the pack in search-enhancing features and for the most part returned excellent search results. *Click here to read the full review.*

## AlltheWeb

ARTICLE DATE: 05.27.03

### SPEC DATA

- Company Info: Fast Search & Transfer ASA

EDITOR RATING: ●●●●○

By Sarah Pike

AlltheWeb's claim to fame is a large index, but bigger isn't always better, and a fast search can be a hasty search. Several of our attempts returned irrelevant sites with the keywords in their metadata. On the other hand, AlltheWeb's many advanced options and ability to refine search results are helpful for serious users.

The site is nicely customizable, with sophisticated search options such as searches for pages linked to a given page, searches within URLs or page titles, and searches limited by page size. There's a check box for exact-phrase searches, and one personalization option is to make certain advanced search options accessible by drop-down boxes in the main interface.

The advanced features don't always follow conventions. For example, you use parentheses to indicate the Boolean OR function on the main page (OR behaves normally on the advanced search page). Fortunately, the Help page is clear and extensive.

AlltheWeb also analyzes your search phrase, restructuring it with quotation marks and eliminating words like the for better results. You can disable this feature (via the handy Customize button), but we found it improved results considerably in natural-language queries.

AlltheWeb has specialized search tabs (a feature popping up everywhere) for News, Pictures, Video, Audio, and FTP. You can customize news searches by checking boxes marked international, U.S., local, business, and so on.

When AlltheWeb finds multimedia items in a Web search, it displays links at the bottom of your results page—though we never came across an audio link, even when searches under the Audio tab turned up plenty (for example, Michael Jackson).

AlltheWeb lets you add a search button to Internet Explorer, a sidebar to Netscape, or an AlltheWeb Hotlist panel to Opera (a browser that Google's toolbar can't accommodate).

Still, AlltheWeb's results aren't extraordinary. In our experience it was dismal at finding home pages. Natural-language queries were also a problem. Unusual words helped: A natural-language query asking who played Fegan Floop in the movie Spy Kids worked perfectly. In general, we got the best results with specific, multiword queries: Sacramento River Cats and North Korea -"nuclear weapons," for example, gave us perfect results.

## AOL

ARTICLE DATE: 05.27.03

### SPEC DATA

- Company Info: America Online Inc.

EDITOR RATING: ●●○○○

By [Cade Metz](#)

If you're one of the 35 million people who access the Internet through America Online, you might want to use AOL search, because it's so conveniently incorporated into the client (we tested the integrated version within

the client). AOL search tends to push you toward AOL content and AOL partner sites, however, and when searching the Web at large, it's not as powerful as some of the other engines reviewed here. While AOL search is also available at AOL.com, if you don't have an account with the online service, we recommend trying another Web-based search engine.

When you launch AOL, the AOL search window pops up conveniently on the left side of your desktop and helps you search not only the Web but also AOL itself. Query results fall into four groups: AOL content, sites recommended by AOL's editors, sponsored sites, and sites culled from a general Web search. Although the two latter groups, which are best, are provided by Google, their results are often pushed far down the page.

Because the sponsorships are intrusive and often only loosely relevant, they reduce the effectiveness of searches. When we entered McDonald's +wireless, looking for information about the Wi-Fi hotspots being installed by the fast-food chain, the first three results were sponsored sites selling cell phones and wireless equipment. But this search also yielded three Google-provided sites with exactly what we wanted, on the first page of results.

Even these results aren't always as impressive as those you'd get from Google. AOL search doesn't let you use any of Google's advanced operators or anything like the tools available on Google's advanced search page. The only way to focus your search is to add simple operators, such as double quotes (to search on an exact phrase) or a minus symbol (to exclude a word or phrase).

The site provides two indexes you can browse—one covering just AOL, the other covering both AOL and the Web. Open Directory results are woven throughout. AOL search is far more effective than it was just a few years ago, but there will be times you need the power of a service devoted entirely to search.

## Google

**ARTICLE DATE:** 05.27.03

### SPEC DATA

- Company Info: Google

**EDITOR RATING:** ●●●●○

By Sarah Pike

Reviewers may overuse the word uncanny to describe Google's talent of finding what you're looking for. In testing, we found Google a consistently fine performer—unsurprising given that it provides so much content to so many other engines. We were surprised, however, that it no longer dramatically outperformed its competitors. Still, it stands ahead of the pack in search-enhancing features and for the most part returned excellent search results.

Customization options include language, content filtering, and number of results per page, but you can't add advanced search drop-downs or check boxes to the main interface. The advanced search page compensates with excellent, extensive options, including Boolean searches and searches by file format, date, and domain. You'll also find a few search types not listed among the specialized searches on the main page, such as a similar-page search and searches for terms found in the title, URL, or text for a page, or in other pages' links to a page.

The main specialized searches are Images, Groups (a huge repository of archived Usenet discussion forums), Directory (content organized by topic, à la Yahoo!), and News.

Google improves your search results by checking for typos and offering spelling help. It also ignores common words like what, of, and is. You can force it to acknowledge a word by prefixing the word with a plus sign. The Help page, which is almost too extensive to be quickly helpful, has tips for making searches more effective, including searching page titles or URLs, looking for related sites, even finding only cached pages.

In fact, nearly all of Google's search results include the option to view cached versions of the pages returned—useful when a link is broken or a site is no longer available. Google also provides translation for pages in some

foreign languages (though not Slovene, as we found in our search on Republic of Slovenia).

In our searches, Google's performance was fairly even across the board. It did well at finding specific home pages and was excellent with complex, multiword queries. What makes its searches stand out is that the Web page results—the ones people care about—are pushed to the top, with very few exceptions. Sponsored links are either compact tint boxes at the top of the results page or pushed to the side where they can be ignored—although their relevance is often quite high.

## MSN

**ARTICLE DATE:** 05.27.03

### SPEC DATA

- Company Info: Microsoft Corp.

**EDITOR RATING:** ●●●○○

By [Cade Metz](#)

MSN is slowly gaining on our Editors' Choice: It can restrict searches to particular domains, file types, regions, and languages. It also automatically corrects spelling. And it's adept at natural-language queries. But MSN's results aren't always fresh, and you can't refine searches with specialized operators from the main search page. Nor does MSN offer cached pages or translations.

MSN's results come in five flavors: Popular Topics (common searches by MSN users), Featured Sites (recommended by MSN editors), Sponsored Sites, Web Directory Sites (from a Yahoo!-like Web index), and Web Pages (culled from the Web at large). Unlike AOL, MSN displays only relevant sponsored sites. When we tried McDonald's +wireless, looking for the chain's Wi-Fi hot spots, MSN didn't push us to sites selling wireless hardware.

Unfortunately, the categories are always displayed in the aforementioned order, with general Web sites buried under other results. We also object to MSN's overly subtle delineation of sponsored links. They're marked, but not clearly enough that you won't end up scanning the sponsored links to get to the others—a problem Google addresses more gracefully.

On natural-language queries, MSN actually performed better than Google-based engines. When we asked Where can I buy duct tape online?, MSN took us straight to a pair of sites that sold duct tape.

Still, MSN's searches aren't as up to date as Google's. Since we did our testing just after the death of everyone's neighbor, Fred Rogers, we expected to find an obituary when we typed "Mr. Rogers" +dead, but instead the first two results were a site about the death of Roy Rogers and one about Mr. T.

With most of our searches, at least one of the top ten results was a dead link. Even the live ones were occasionally questionable. When we tried "bed and breakfast" +"New England," MSN's summary for one result read, "Bernice Chesler's Bed & Breakfast in New England Web Site is Now Closed."

When keying words into the search box on MSN's home page, you can use double quotes to search for a specific phrase. But for other operators, such as minus signs (to exclude pages containing given words) or asterisks (for wildcard characters at the end of words), you have to visit the advanced search page. You'll often come here anyway to restrict searches by domain, file type, region, and language—but why not enable operators on the main page?

## Yahoo!

**ARTICLE DATE:** 05.27.03

### SPEC DATA

- Company Info: Yahoo!

EDITOR RATING: ●●●○○

By [Cade Metz](#)

Since we last reviewed the Yahoo! search engine, it has improved significantly. Yahoo! now provides many tools for defining the scope of your queries. Search results from the Web at large, supplied by Google, are now grouped on the same page as those from the Yahoo! Directory, the site's long-standing Internet index (in the past, you had to visit a separate page for Web results). If you enjoy browsing the Yahoo! Directory—displayed above the general Web results and often featuring more relevant results—as well as surfing through uncataloged sites, you might make this your primary search engine.

On the other hand, if you object to being pushed toward sponsor sites (as we do), you might think again. When displaying search results, Yahoo! doesn't start with sponsored sites—it begins with matching items from inside Yahoo! itself and relevant categories in the Yahoo! Directory—but it places sponsored sites above the Web results (from Google).

If you're looking for products and services, sponsor matches can be helpful. When we searched for George Foreman +grill, the results page began with four sponsor sites selling them. But if you're simply looking for information, sponsors can get in the way. When we searched on the term 1394, looking for the home page of the 1394 Trade Organization, it did point us there—after listing three sites selling computers.

When we last reviewed Yahoo! Search ("In Search of...," December 5, 2000), we complained about the lack of tools for refining searches. Thanks to a new advanced-search page, you can now restrict your search to particular domains, languages, and regions. You can search for sites based on when they were last updated. And you can look for pages that use particular keywords in their URLs.

Yahoo! still has distance to make up, however. It lacks some search abilities we enjoyed in other engines, such as wildcards and the ability to perform Boolean searches directly from the basic search box. But as we went to press, Yahoo! announced that an updated version of its search engine was soon to be released.

## Scorecard: Search Engines

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All of these sites provide useful results, so we've rated them on ease of use, features, and flexibility. A high **interface** rating indicates a lack of unrelated ads and other extraneous distractions, plus easy-to-skim results and a helpful help system. A site with good **search flexibility** lets you specify what you want to find using such features as complex Boolean search, wildcards, and proximity search.

Some sites let you specify where you want to search: These **targeted search** options include limiting searches to specific domains or sites, searching within URLs or titles, and limiting results to specific file types or languages. We've also rated the sites on **results options**—like refining search results with new keywords, displaying cached versions of pages, and locating pages similar to a particular hit.

[Click here to view the Scorecard results.](#)

## Search Better

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### Have a Backup

Although the world of search is increasingly interconnected (see "Search Web"), that doesn't mean all engines give the same results. Two engines that draw on the same data may respond differently because they don't use the same methods to weight the data. When you can't get to information you suspect is available, try a different engine. It takes only a minute, and you might be surprised at what you uncover. At the least, you'll keep abreast of changes at other search sites.

## Get to know your engine

Every engine has a bar in which you enter your searches. And just about every engine has many features and individual quirks. Once you've picked an engine, take the time to read the help pages and examine its advanced search features, its search refinement capabilities, and any other power user features. If you search with any regularity, you'll get a quick return on the time investment.

Even if, after reading our reviews, you decide to stick with a tried-and-true favorite, go back and check out these capabilities, if you haven't already. In any case, watch for new developments. The better engines are always making improvements.

## Learn the lingo

Just knowing Boolean query language can help you focus more clearly on what you're looking for. Some sites let you use Boolean operators on their main search bars; others may require you to click through to their advanced options.

You can always improve your search results by using combinations of the standard Boolean operators AND (both terms must be present), OR (either or both terms must be present), and NOT (the following term must not be present).

Besides using the above terms, you can often use parentheses and quotation marks to group items, as in mathematical equations. For example, if you're looking for David Copperfield (the book by Charles Dickens) but can't remember the author's name, you might type in "David Copperfield" AND book NOT magic.

Note that while AND, OR, and NOT are the classic Boolean terms, many search engines have their own spin on the terms. You may see ANDNOT instead of NOT, for example. Some actually have Boolean forms you can fill in, where you enter your terms in separate boxes connected by drop-down menus whose choices are Boolean operators. Check on each site's help files for particulars.

## Advanced Searchers, Advanced Searches

Most search engines, conventional and special, offer alternative Web-searching methods. A listing of directories and a search bar are standard features on opening screens. Look for advanced search option links to define, limit, or expand your search terms. Many search engines will even walk you through the process in their help files.

You can use Boolean terms (with engines that support them) to do the minimal work yourself, or you can take advantage of special search forms.

Forms use Boolean terms translated into English; they may also let you enable filters such as stemming or truncating (like searching on color\* to get color, colors, and colored).

You can also refine your results or present them in a certain format. For example, AlltheWeb's advanced customized preferences let you use query rewrites to improve results by rephrasing your query, as well as auto-complete (to suggest ways to complete partial search phrases), and news integration. Google's advanced search functions are easy to master and allow word, domain/site, language, and parental-control filtering.

## Spell it Right

Search engines, in the main, reflect the "garbage in, garbage out" principle. They look for the exact spelling of the term you enter, so be sure to double-check if you get strange results.

## Spell it Wrong

The web is full of misspellings. In some cases, it might not be a bad idea to try misspelling your terms. It depends on the kind of search you're doing, however. Searching for recombinant DAN might not provide the

kind of results you want for an academic research paper on genetics, but searching for Avril Lavinge pix might help you satisfy your punk/pop/pictorial urges.

### **Be Exclusive**

Exclude words. If you're overwhelmed by irrelevant results, take a minute to look at a few of the misses and look for a common keyword you can pull out to restrict the results. Many search engines let you exclude certain results—some through an advanced interface or Boolean language, others through means as simple as putting a minus sign in front of each keyword you want to exclude. There are several ways to handle this, so you'll have to do a little checking.

### **Try Different Forms**

If your search on theoretical physics isn't turning up all the right stuff, try theory physics. For electrical, try also electric, electricity.

### **Cast Your Net Wide**

If you're having trouble finding good results with your favorite engine, why not try a metasearch tool that looks at a bunch of results from a variety of engines?

Frankly, metasearch isn't our favorite way to go. Metas haven't come the long way that regular search engines have, and since they aggregate results from many search sites, they often present too many results in an unhelpful interface. More important, they typically can't translate complex query language into the specific format each site requires.

Although by and large we see individual search sites improving, no site is yet perfect, and no site comes close to indexing the whole Internet. So if your first- and second-string search sites can't come up with the goods, check out a metasearch site like Dogpile, IxQuick, MetaCrawler, or Mamma.com, or a tool like Copernic (see the review). HotBot, not generally perceived as a metasearch site, has a cool new interface that offers a sort of lateral metasearch. Without retyping your query, you can click radio buttons to get the results of your search in AlltheWeb, Google, Inktomi, or Teoma.

### **¿Dónde Esta?**

If your search is language-specific, or you need a translation, or you want to search locally, a variety of tools stand ready to perform the task.

Many search engines, such as Google, let you set your preferences to search in the language of your choice. There are country-specific search sites and filters for narrowing your search by language and country.

### **Roots**

Looking for pages about your culture and language? There's a wealth of information out there. One of our favorite resources for this kind of search is [www2.wheatoncollege.edu/Wallace/Instruction/Workshops/forlang.rev01/forlang.rev.html#gate](http://www2.wheatoncollege.edu/Wallace/Instruction/Workshops/forlang.rev01/forlang.rev.html#gate). Here we found Search Engine Colossus ([www.searchenginecolossus.com](http://www.searchenginecolossus.com)), which has a directory of 195 countries and 38 territories as well as your standard search bar. A search on Switzerland retrieved a few dozen links to search engines, including a Japanese-language site about the country.

Educators can find resources such as [www.iecc.org](http://www.iecc.org) to get in touch with students around the world.

### **Dive Deeper and See the Unseen**

Many people think that their search engine can find any piece of electronic information. This isn't true.

There's a whole category of pages that lack links pointing to them or that aren't indexed because they consist

of data types such as pictures, music, and PDF files, which spiders and robots won't index (although many conventional search engines have made some progress in this regard). The vast majority of the Deep Web, as it is known, consists of databases that spiders can't index. A spider can read the address of a database, but it can't decipher the contents, because the pages with valuable information are created only as temporary responses to queries from database users. Additionally, many databases require a user ID and password, which further complicates the work of spiders and bots.

You can find and access many of these databases through portals that specialize in providing access to the Deep Web. These include CompletePlanet ([www.completeplanet.com](http://www.completeplanet.com)) and InfoMine (<http://infomine.ucr.edu>).

Check out our list of specialized, or niche, search engines to get a taste of what is available, then follow these links to high-quality information.

### **Go Back to the Library**

Library reference departments are still great sources of information, even in today's online environment. Many of the indexes, directories, and encyclopedias you used in print have been reformatted and are available online. Perhaps even more important, the magazines and peer-reviewed journals you no doubt used for academic research are also often available online. Many academic and large public libraries have been gradually converting collections from print to online access. In fact, the future of the printed versions of many of these publications is increasingly in doubt.

Just as libraries have paid for books and periodicals, they pay a price for the corresponding online versions. For this reason, access to these materials is restricted, and you won't be able to use them without permission. Most academic and public libraries provide remote access to their communities via IP address or user name and password. Usually users have to configure their browsers and provide their library ID numbers to access the databases from home. Some libraries let unaffiliated walk-in users access their online resources; others (especially academic libraries) restrict entry or usage to registered patrons. It's best to check before making the trip.

Most libraries have Web pages describing available online resources, giving you an idea of the subject areas their online collections cover. Once you get to a library, ask a reference librarian to help you get started, since each library's collections and policies are unique.

Investigation is likely to turn up resources covering news, IT, biography, and much more. Check our listings for JSTOR, LexisNexis Academic, Mergent Online, and Safari Tech Books Online in our review of niche search engines for examples of the databases you're likely to need to visit a library to access.

Remember that while you may find large quantities of information through regular search engines, there's no guarantee that it's quality information. Anyone can put up a Web page. Library databases are created by well-known publishers and are evaluated carefully by librarians before they are purchased.

### **Keep An Eye on the Future of Internet Searching**

An Internet search engine performs its task in a purely mechanical way. It searches for text in a document, takes into account how often words are repeated, and then applies rules for ranking. A good search engine has an easy-to-use interface, documents a huge number of pages, and updates links frequently.

What a search engine can't do is understand your query on a more human level. It can't make associations between words and topics the way we can, so it loses precision in retrieval. That's why we've gotten used to doing vocabulary acrobatics, then settling for a few useful links swimming in a sea of thousands or even millions of irrelevant hits.

What if you could ask a search engine to retrieve documents on a topic and it would be smart enough to find valid pages without all the noise? A new search technology called Latent Semantic Indexing (LSI) may be the answer.

LSI employs a mathematical algorithm to calculate word associations. The resulting technology is similar to the

information retrieval you might get at your local library through a card catalog or OPAC (online public access catalog) but without the structured data constraints. Adding LSI to current technologies brings you to a higher level of understanding. It converges disparate database indexes holistically.

Like conventional search engines, LSI looks at each document's content words as opposed to commonly used words like and and the. Documents with many of the same words are semantically close, and documents with few of the same words are semantically distant. LSI then maps the documents' "location" in a multidimensional space, with one dimension for each index word, while grouping semantically close documents near one another. Mathematical transformations make this space accessible, and the result is a search that finds related pages even if they don't share the same keywords.

If you want to read more and keep abreast of this new development, follow these links:

- [http://javelina.cet.middlebury.edu/lisa/out/cover\\_page.htm](http://javelina.cet.middlebury.edu/lisa/out/cover_page.htm)
- <http://lsi.research.telcordia.com/>
- [www.psych.nmsu.edu/~pfoltz/cois/filtering-cois.html](http://www.psych.nmsu.edu/~pfoltz/cois/filtering-cois.html)

### No One Searches Alone

While we try not to encourage paranoia, everyone should be aware that searches, like any other Internet or computer activity, can be traced. A determined tracker can reconstruct your Web searches from a variety of sources. Some, such as your history cache, can be easily cleared (though defeating determined searches may require more than simply clearing your cache). Other traces—such as those in your company's Web server logs (if you're searching from work), your ISP's logs, and the logs at the search engine company itself—are much more difficult to erase.

Libraries are facing an updated version of the old problem of what to do about law enforcement inquiries regarding patrons' borrowing habits—for instance, when law enforcement requests information about a patron's computer-assisted research. In some cases, servers have been seized from libraries by law enforcement officials. This isn't a problem for walk-in users who aren't required to provide any kind of identification, but if you use a password to log in remotely, you may want to consider what kind of personal information you're leaving behind.

## What language?

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Translation tools are more hit-or-miss than tools for finding content in other languages. Google's "translate this page" feature gives you an idea of what a page is about, but the results can make for challenging reading. AltaVista's venerable Babel Fish Translation (<http://world.altavista.com>) will translate a block of text, a Web page, or e-mails. The translations seem to be word-by-word, so we wouldn't take them as gospel, but they can certainly help you if that piece of information you need is available only in another language.

## How Good Is Your Information?

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Some surprising tools will reveal a lot about the information you've found, which in turn may help you decide its value.

To find out who owns the site your search engine retrieved for you, turn to a Whois site such as [www.whois.sc](http://www.whois.sc). Or perhaps use a better-known example, like [www.whois.org](http://www.whois.org). Revealing the source is an invaluable trick, especially with matters such as health or financial information. Also consider fee-for-service searchbots such as BrightPlanet's DQM2 Deep Query Manager, which helps you find, classify, and manage information.

## Don't Be Stingy

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Nearly one-third of all searches are single-word searches. While search engines have gotten smart enough to nail many one-word searches, they tend to put the most popular choices first. For obscure subjects this might be a reasonable strategy, but few searches are as obscure as you might suspect.

In our testing, one of the one-word searches we tried on every engine was Godiva, looking for the chocolates. But what if you were trying to find, say, the original Anglo-Saxon name of Lady Godiva? Typing Godiva into Google yields results mainly for chocolates, but taking the time to type in Lady Godiva brings up a page with the answer (Godgifu).

Depending on the word in question, you might get anywhere from hundreds to hundreds of thousands of answers (or more) from a single-word query. While adding more keywords won't necessarily cut the results down to a number you can easily scan through, it's likely to push more relevant results to the top.

## Niche Search

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**Asiaco** <http://search.asiaco.com>

A searchable index of Asia-related topics on the Internet.

**AskERIC** [www.askeric.org](http://www.askeric.org)

The Educational Resources Information Center (ERIC), a national information system funded by the U.S. Department of Education.

**Ask Jeeves Kids** [www.ajkids.com](http://www.ajkids.com)

Every kid should have his own butler to help search the (carefully screened) Internet.

**Biography Resource Center** [www.galegroup.com/BiographyRC](http://www.galegroup.com/BiographyRC)

Search for people by personal facts such as birth and death year, nationality, ethnicity, occupation, or gender.

**CiteSeer** <http://citeseer.nj.nec.com/cs>

Has anyone cited that obscure paper you wrote on nanotechnology? Find out here. Search not only indexed scientific documents but also the citations they contain.

**Cool4Kids** [www.cool4kids.com](http://www.cool4kids.com)

This kids-only search engine draws on the Kids and Teens Open Directory Project. With 17,549 links and counting.

**eBizSearch** <http://gunther.smeal.psu.edu/index.html>

Search the Web as well as academic and commercial articles for various aspects of e-business.

**eLibrary** <http://ask.elibrary.com>

Searchable archive of books, articles, newspapers, transcripts, pictures, and maps. After the seven-day trial, you still get abstracts free, but full files will cost you.

**Philosophy Research Base** [www.erraticimpact.com](http://www.erraticimpact.com)

There's a little bit of everything philosophical here, but the heart is a search engine that finds books on philosophical topics in partnership with Amazon.com.

**FindArticles** [www.findarticles.com](http://www.findarticles.com)

A useful free search engine indexing published articles from more than 300 sources (PC Magazine apparently not among them).

**GPO Access** [www.access.gpo.gov/su\\_docs/multidb.html](http://www.access.gpo.gov/su_docs/multidb.html)

All about the government. Access to multiple databases for statistics, publications, history, and more.

**HighWire** <http://highwire.stanford.edu>

Search over 12 million fully indexed articles in over 4,500 Medline journals; the abstracts, at least, are often free. About 360 of the site's journals offer free content (often in back issues) as well.

**Hoover's Online** [www.hoovers.com](http://www.hoovers.com)

This paid subscription service makes more than 6,000 business publications available through Factiva, a Dow Jones & Reuters company. You can search by keyword, company name, and symbol, among other options.

**IncyWincy** [www.incywincy.com](http://www.incywincy.com)

The Incy Wincy Spider crawls through the Invisible Web (as found on the Open Directory Project).

**JSTOR** [www.jstor.org](http://www.jstor.org)

Academic researchers, salivate. This archival collection contains full-image, full-run academic journals on everything from Botany to Business. You'll need to log on through an academic institution.

**LexisNexis Academic** <http://web.lexis-nexis.com/universe>

A for-pay, full-text database of news, business, legal, and government information.

**Mergent Online** [www.mergentonline.com](http://www.mergentonline.com)

An integration of databases, such as Moody's Industrial Manual, EDGAR (Electronic Data Gathering, Analysis, and Retrieval) filings, and Company Data Direct (U.S. and international).

**NatureServe Explorer** [www.natureserve.org/explorer](http://www.natureserve.org/explorer)

What is *Mustela nigripes*, and will it be around much longer? Check here for searchable plant, animal, and ecological-community information for the U.S. and Canada.

**The On-Line Encyclopedia of Integer Sequences** [www.research.att.com/~njas/sequences](http://www.research.att.com/~njas/sequences)

This is a weird one. Enter a series of numbers and this site will tell you the rationale behind it. We tried "8 5 4 9 1 7 6 3 2 0"—the digits in alphabetical order. It got the right answer.

**PublicLibraries.com** [www.publiclibraries.com](http://www.publiclibraries.com)

Find your public, state, university, presidential, or national library online.

**PubMed** [www.ncbi.nlm.nih.gov/entrez/query.fcgi](http://www.ncbi.nlm.nih.gov/entrez/query.fcgi)

This service of the National Library of Medicine provides access to over 12 million Medline citations, going back to the mid-1960s.

**O'Reilly Network Safari Bookshelf** <http://safari.oreilly.com>

Electronic versions of hundreds of technical books from the venerable IT publisher, covering more than 20 categories, from Business Reference to XML.

**S&P Netadvantage** [www.netadvantage.com](http://www.netadvantage.com)

A great place to seek out information on investment trends, markets, and companies in play. But you'll need a log-on just to access the site.

**SearcheBooks.com** [www.searchebooks.com](http://www.searchebooks.com)

A full-text index of e-books. Enter "For this relief much thanks" and you're instantly given a link citing Hamlet, Act I scene 1.

**SearchEdu.com** [www.searchedu.com](http://www.searchedu.com)

Search the .edu domain.

**Search Engine Colossus** [www.searchenginecolossus.com](http://www.searchenginecolossus.com)

Search for search engines worldwide in the language of your choice.

**SearchGov.com** [www.searchgov.com](http://www.searchgov.com)

Search the .gov domain.

**SearchMil.com** [www.searchmil.com](http://www.searchmil.com)

Search the .mil domain.

**SpeechBot** <http://speechbot.research.compaq.com>

An HP Invent search-bot site that indexes 15,590 hours of broadcasts over the Web, both audio and transcripts.

**10K Wizard** [www.tenkwizard.com](http://www.tenkwizard.com)

Search the SEC's EDGAR for real-time SEC filings.

**VolunteerMatch** [www.volunteermatch.org](http://www.volunteermatch.org)

"Get out. Do good." The logo says it all. You can search by area, interest, and schedule.

**World News Connection** <http://wnc.fedworld.gov>

A for-pay foreign-news aggregation service maintained by the U.S. Department of Commerce. Want the latest on Ugandan cattle rustling? This is the place.

**Yahooligans!** [www.yahooligans.com](http://www.yahooligans.com)

One of the best kids-oriented search sites and a swell portal for youngsters as well.

## Toolbox

By [Cade Metz](#)

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