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COIMBATORE-641 035, TAMIL NADU

DEPARTMENT OF COMPUTER APPLICATIONS

23CAT605 – WEB STACK DEVELOPMENT

UNIT – I: OVERVIEW OF WEB TECHNOLOGIES & HTML 5

TOPIC: SEARCH ENGINE OPTIMIZATION



SEO or Search Engine Optimization is defined as the process of improving (optimising) the visibility of a website/webpage on Search Engines, such as Google, Bing, etc.

WHAT

A set of processes aimed at improving the website's rankings in search engines

WHY

To get more organic search traffic to your website

HOW

By fulfilling users' search needs (in terms of relevance, content quality, and user experience)



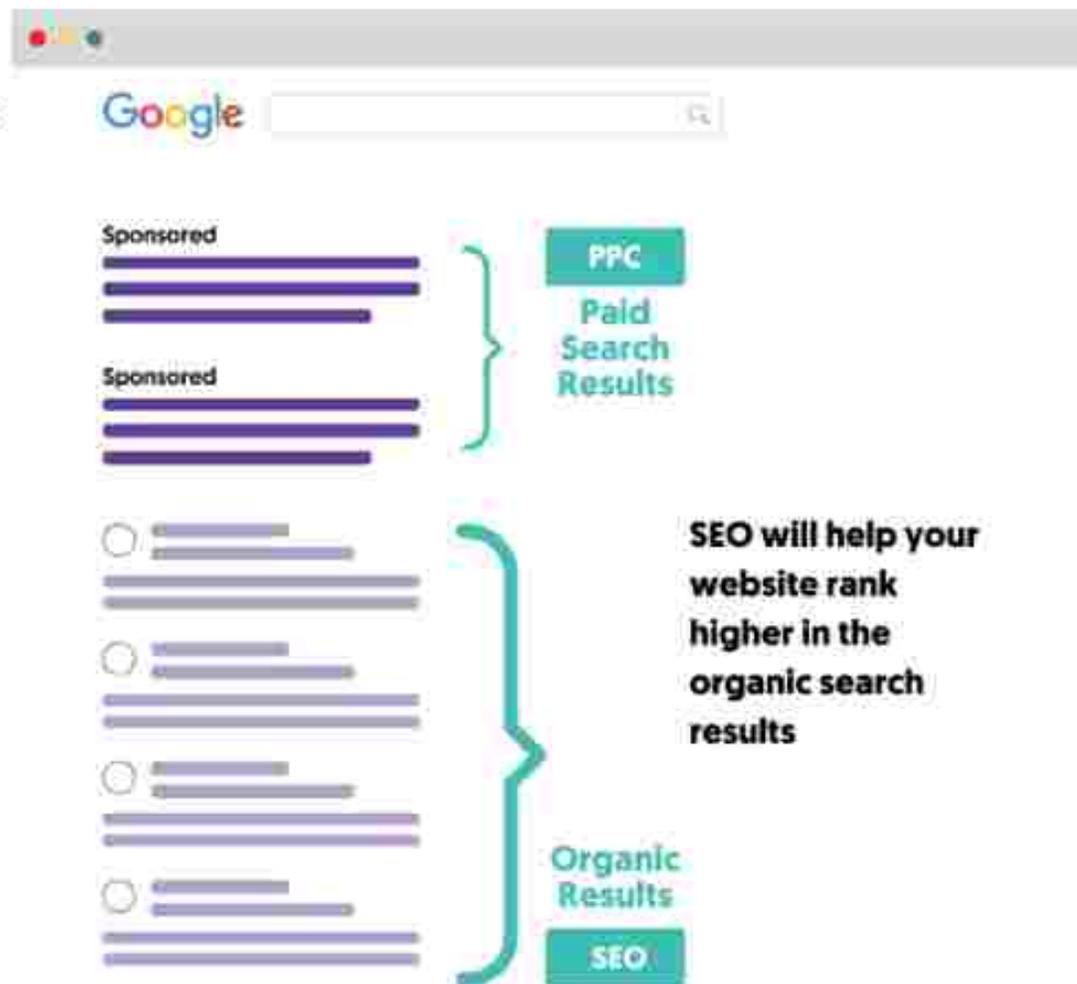
- *SEO (search engine optimization) is the practice of optimizing the performance of a website by changing its structure and content to increase its visibility and web traffic.*
- *It helps in improving the quality of your website and increases the viewer-to-customer conversion rate.*
- *It is a crucial aspect of digital marketing that focuses on enhancing the visibility and ranking of a website in search engine results pages (SERPs).*
- *The primary goal of SEO is to drive organic (non-paid) traffic to a website by improving its relevance and authority in the eyes of search engines*



Why do we need SEO?

We need Search Engine Optimization for the following aspects:

- ✓ To improve the quality of our website
- ✓ To increase web traffic
- ✓ To increase visibility
- ✓ To enhance user experience
- ✓ To gain a competitive advantage
- ✓ For analysis and monitoring of the website





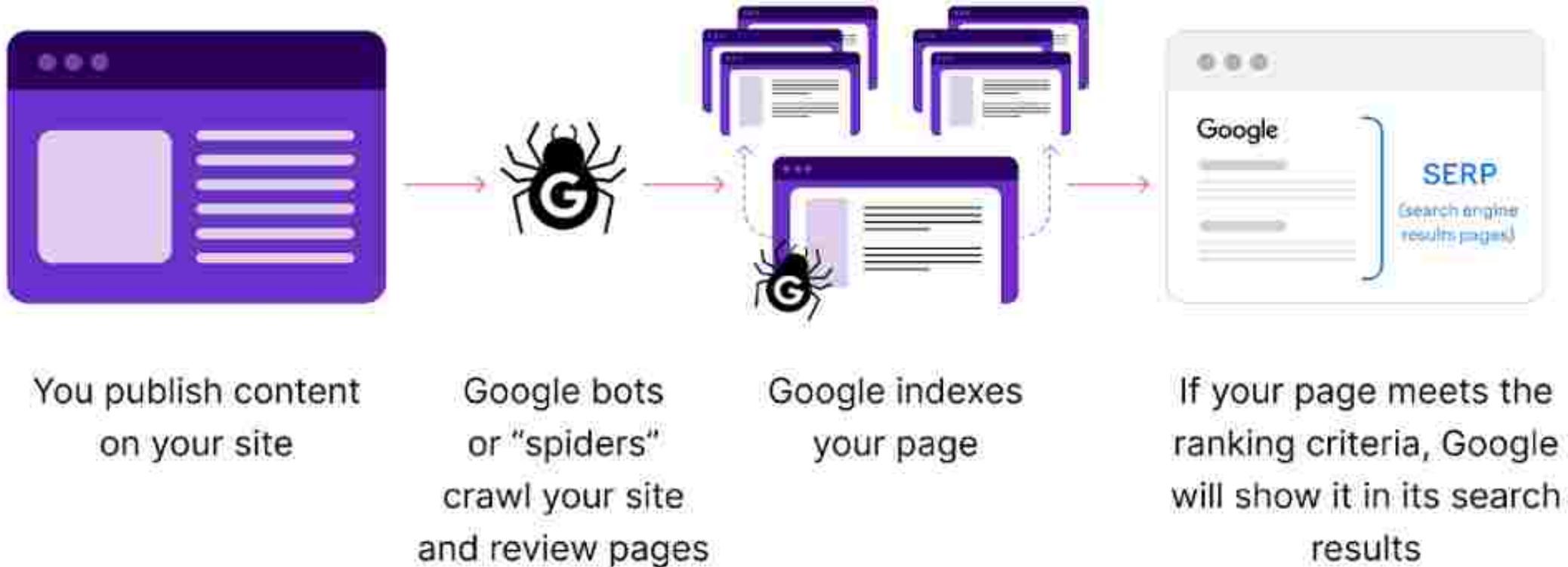
Basics of SEO

keyword research





How Search Engines Work





Search Engine Result Page (SERP)



Paid Searches: Paid Searches generally appear at the top of SERPs. Paid searches are advertisements. Search engines will show ads close to organic search results. This is the primary way search engines make a profit.

Organic Searches: Organic Searches are the unpaid sections in the search engine results page (SERP) that are determined based on the content's relevance to the keyword query rather than because of Search Engine Marketing



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Types of Search Engine Optimization







Technical SEO is the process of ensuring that a website meets the technical requirements of modern search engines with the goal of improved organic rankings.

Technical SEO Best Practices

Domain Format

Broken Links

Core Web Vitals

URL Structure

404 Page

Mobile-Friendly

Website Structure

XML Sitemap

Multilingual SEO

Structured Data

HTTPS

Canonical URLs

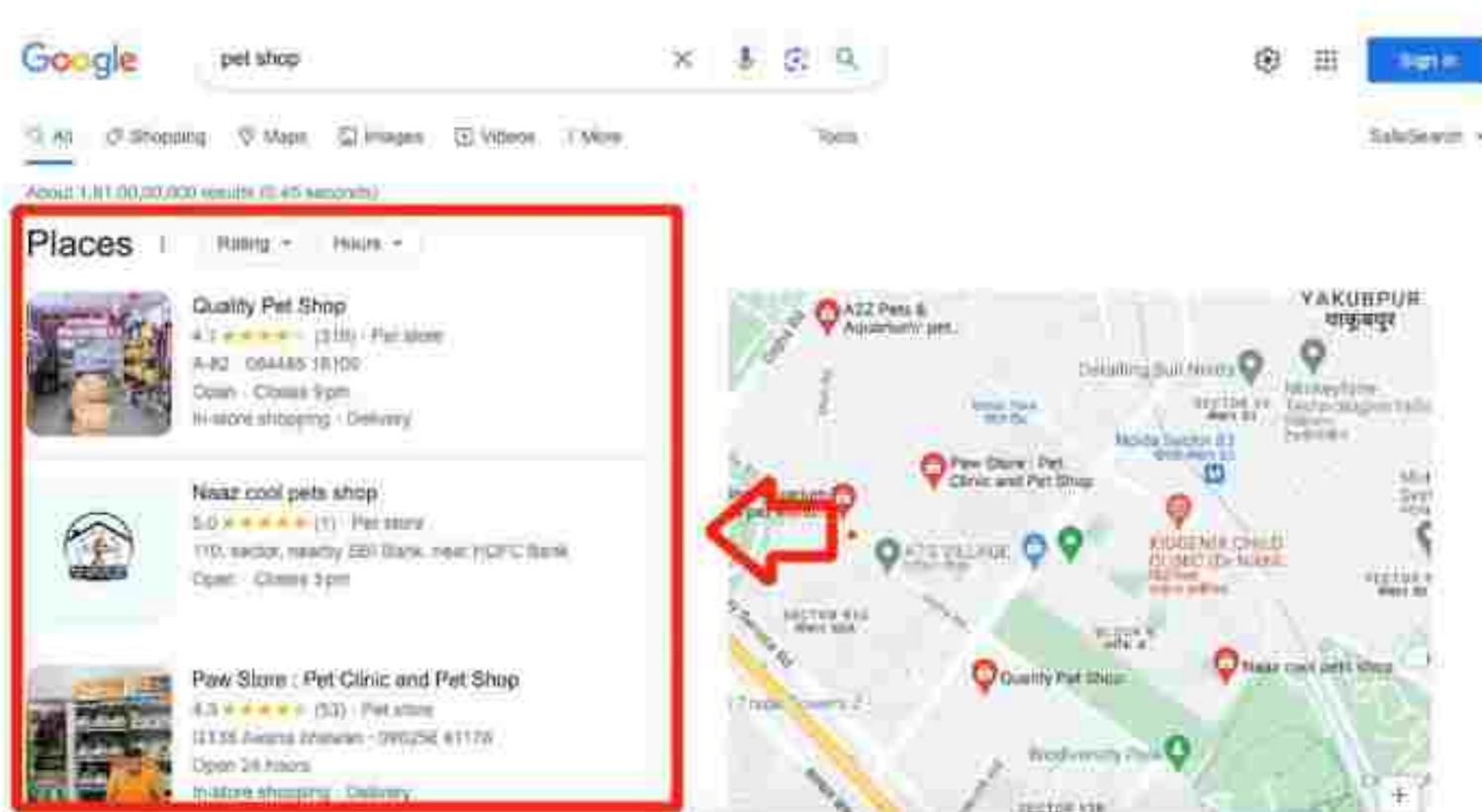
Site Speed



Local SEO



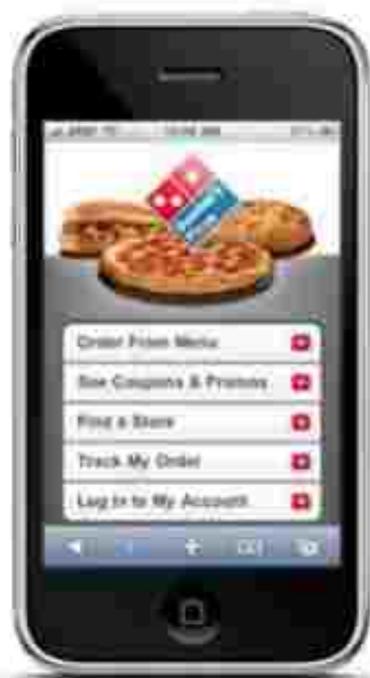
The goal of local SEO, or local search engine optimization, is to increase a website's exposure in local search results. It is a particular branch of SEO that concentrates on making a website or online presence more search engine friendly for local search queries.





Mobile SEO

Mobile SEO refers to the practise of optimizing the website for mobile devices such as Mobile phone and Tablets. The main aim is to ensure that the website is fully functional and organised on mobile devices.



Mobile Website

VS



Standard Website

What percentage of online traffic does each device type account for?

57%



Mobile & Tablet

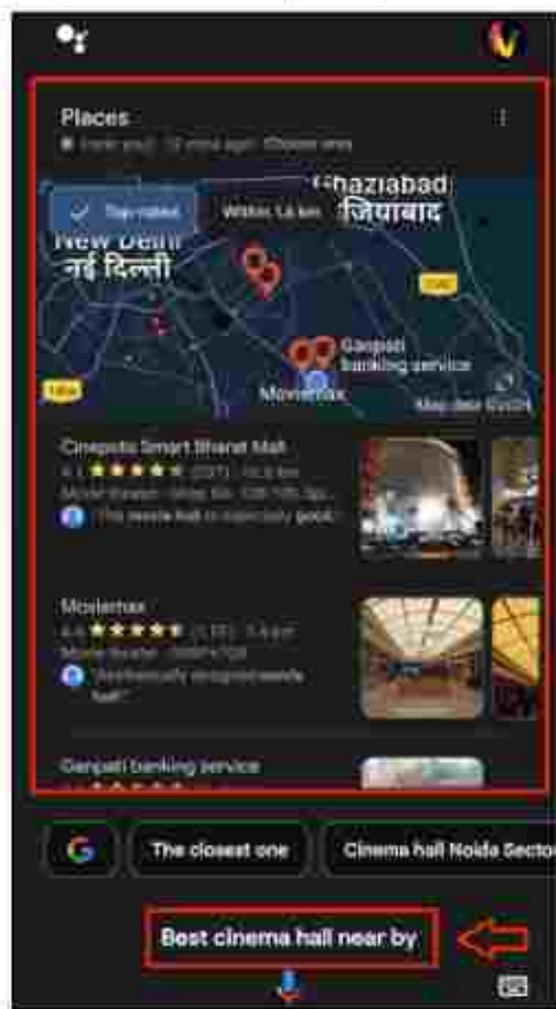
43%



Desktop



Voice SEO refers to practise of optimizing the website to appear in voice search results, this is important as people usually don't speak things the way they write them.



Voice Search Optimization Tips

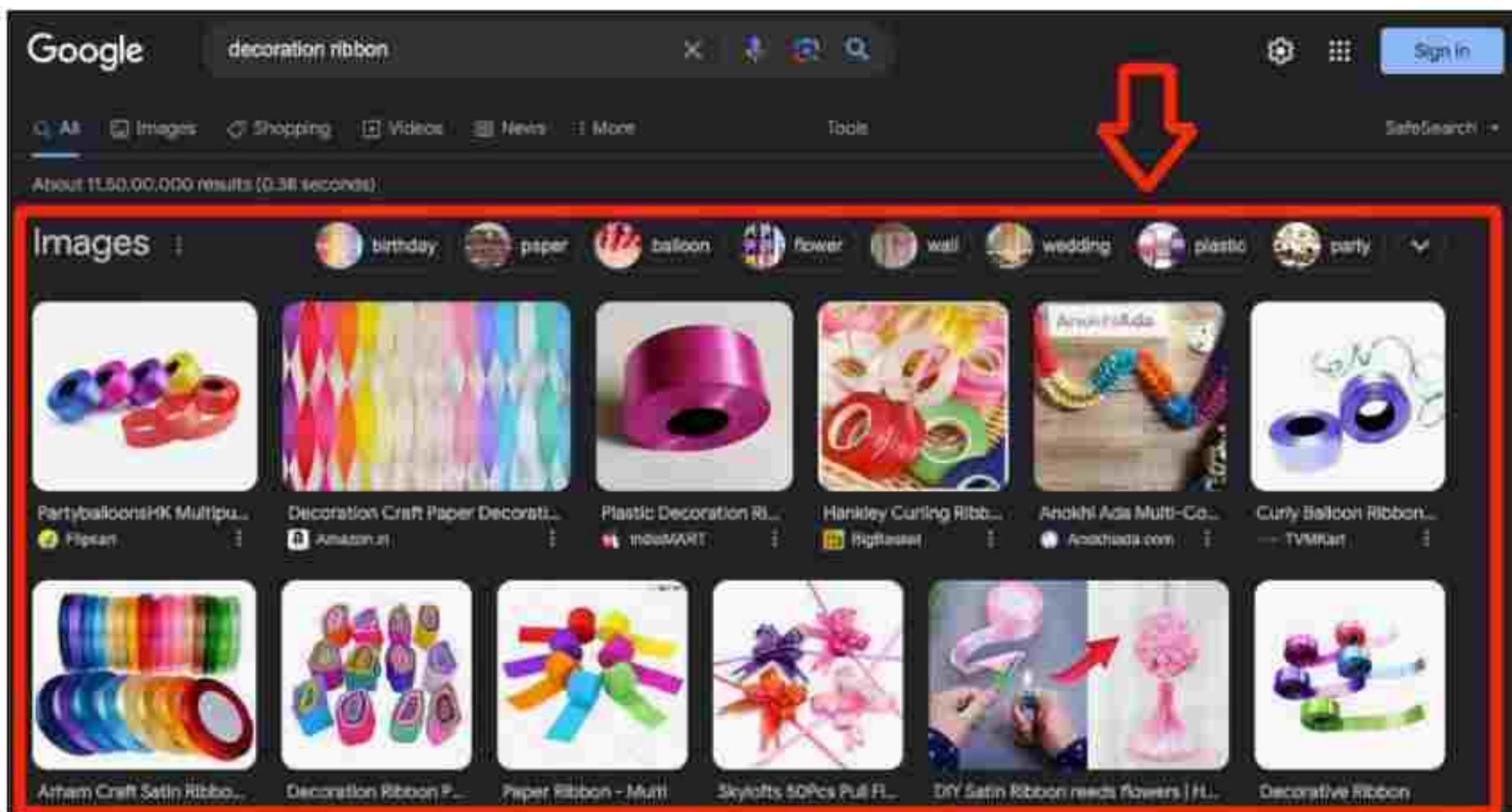


- ✓ Optimize for featured snippets
- ✓ Leverage schema markup
- ✓ Focus on long-tail and question keywords
- ✓ Use conversational language
- ✓ Pay attention to local SEO
- ✓ Update and analyze content frequently
- ✓ Embrace structured data and knowledge graph
- ✓ Prioritize page speed and mobile optimization



Image SEO

Image SEO refers to the practise of optimizing the images to appear in image search results. The main aim is to get our images crawled and ranked high in search results.

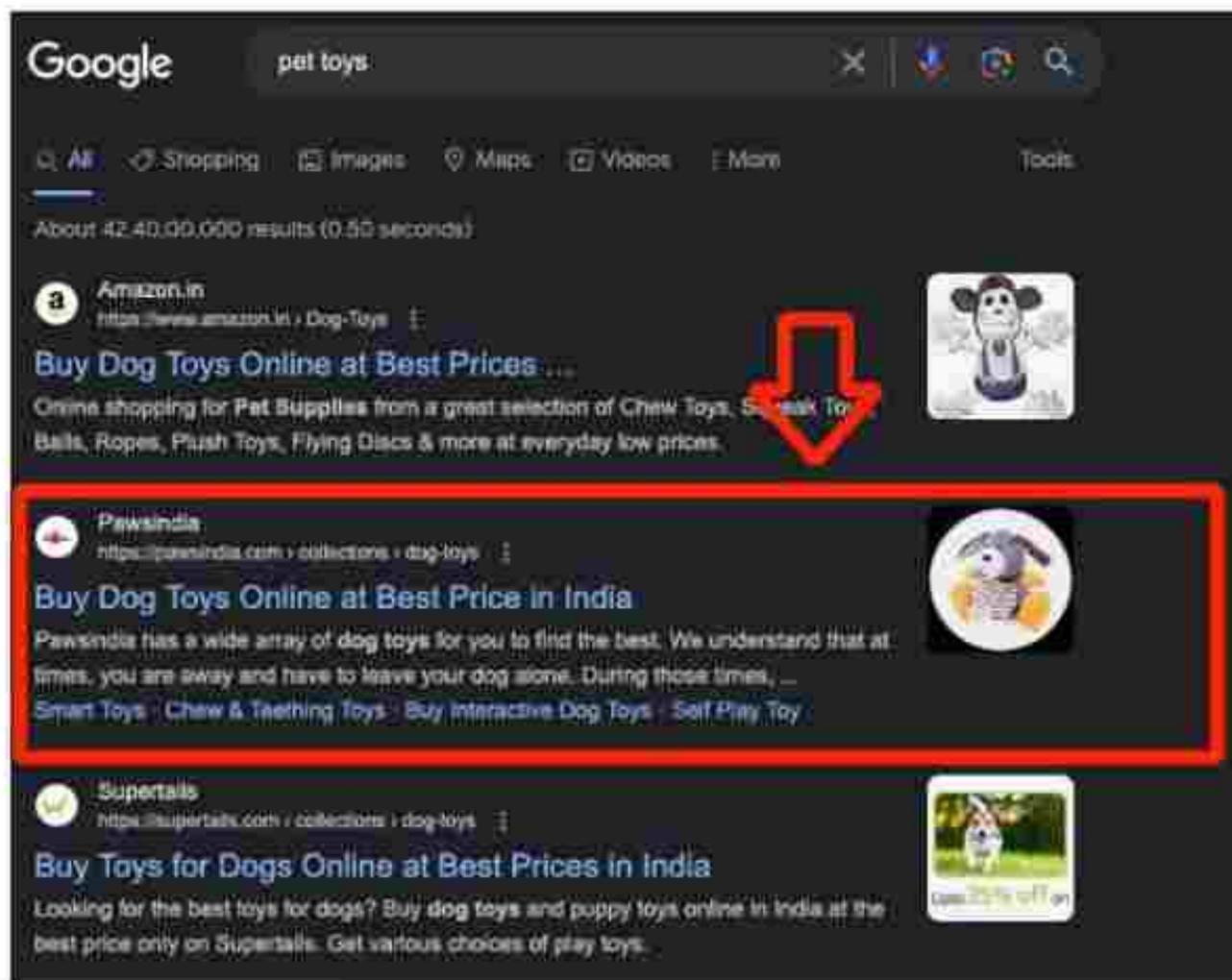




Ecommerce SEO



The technique of increasing an online store's exposure and organic ranks in search engines like Google and Bing is known as e-commerce SEO.





International SEO



The practice of optimising your website for search engines to quickly figure out which countries and which languages you use for business is known as international search engine optimisation, or international SEO.

<i>Sample URL</i>	<i>Search engine target interpretation</i>	<i>Internationalization "type"</i>	<i>URL structure type</i>
italianagency.fr	Searchers in France	Country	ccTLD
Fr.italianagency.it and hreflang=fr tag	French-speaking searchers in Italy	Country and Language	ccTLD + subdomain
Fr.italianagency.com and hreflang=fr tag	French-speaking searchers worldwide	Language	Subdomain
italianagency.it/?lang=fr hreflang	French-speaking searchers in Italy	Country and Language	ccTLD + language parameter
italianagency.com/?lang=fr hreflang	French-speaking searchers worldwide	Language	gTLD + language parameter
italianagency.it	All searchers in Italy	Country	ccTLD



The process of raising a major company's search engine ranks is known as enterprise SEO. Scaling content, constant technical SEO management, and automation are common enterprise-level SEO strategies.





Types of SEO Techniques

➤ Black Hat SEO

▲ Use of paid links

▲ Hidden text in a website

▲ Article spinning

▲ Cloaking



▲ Keyword stuffing

▲ Duplicate content

▲ Link Farming

▲ Content Farming

Black Hat SEO refers to unethical and manipulative practices used to deceive search engines and artificially improve a website's search engine rankings. These techniques violate search engine guidelines and are aimed at exploiting weaknesses in algorithms to achieve quick and often short-term gains



SEO techniques used by Black Hat SEO

Keyword Stuffing: Keyword stuffing is the practice of embedding your content with unnecessary keywords just to make the site rank higher on SERPs. However, the page will rank for those irrelevant keywords, which will be quite annoying for the users.

Shoes

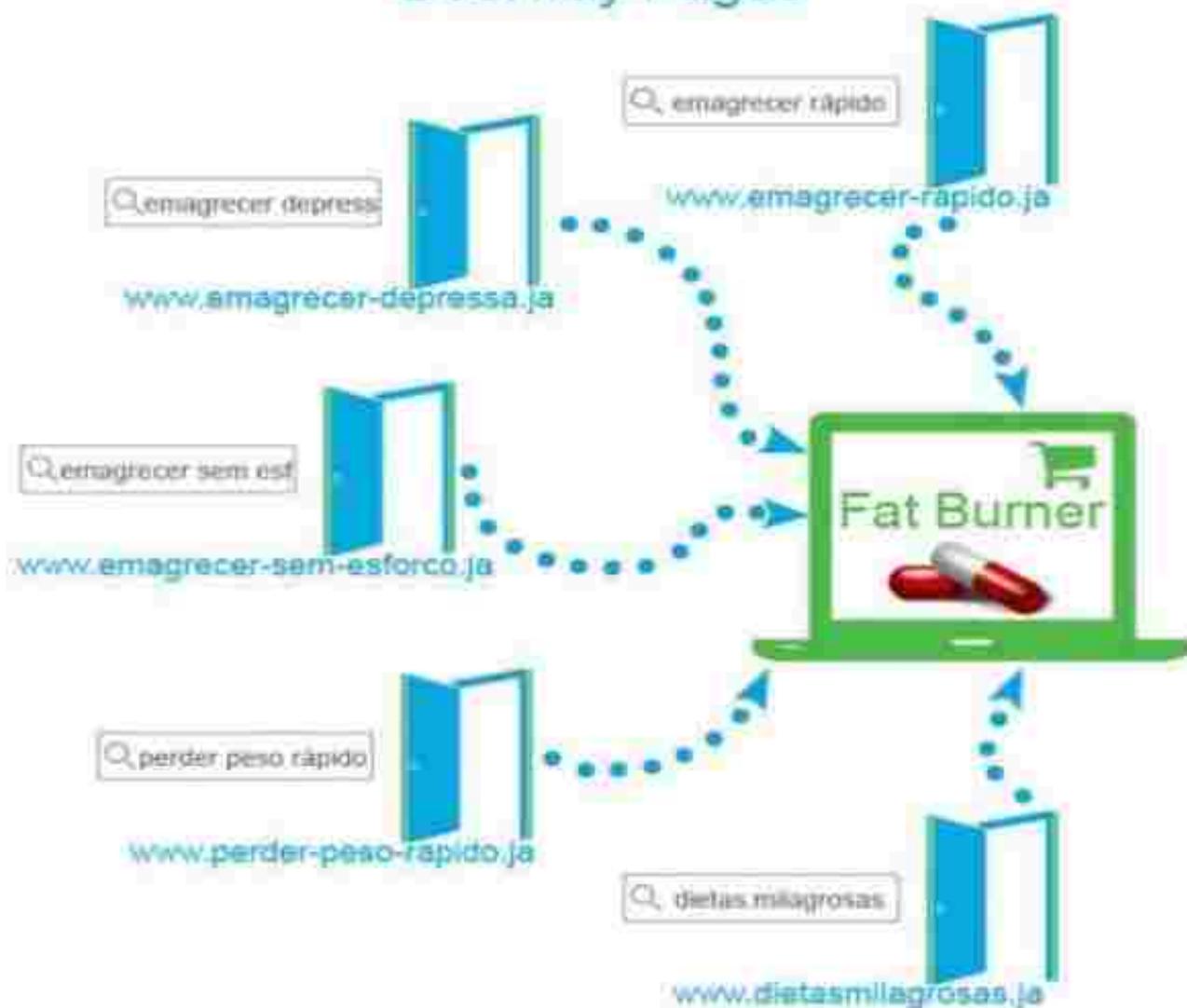
shoes, you've come to the right place. Our shoes are top-notch and the best shoes you can find online. Our online shoe store offers a wide selection of shoes for men, women, and children. Whether you need running shoes, sports shoes, casual shoes, or formal shoes, our online shoe store has the perfect shoes for you. Our shoes are made of high-quality materials and are the most comfortable shoes you'll ever wear. Shop for shoes now and experience the best online shoe shopping experience. Buy shoes online from our shoe store and enjoy the best prices on shoes. We guarantee satisfaction with our shoes. Don't miss out on the best shoes online. Shop now for the best shoes!



SEO techniques used by Black Hat SEO

Doorway Pages

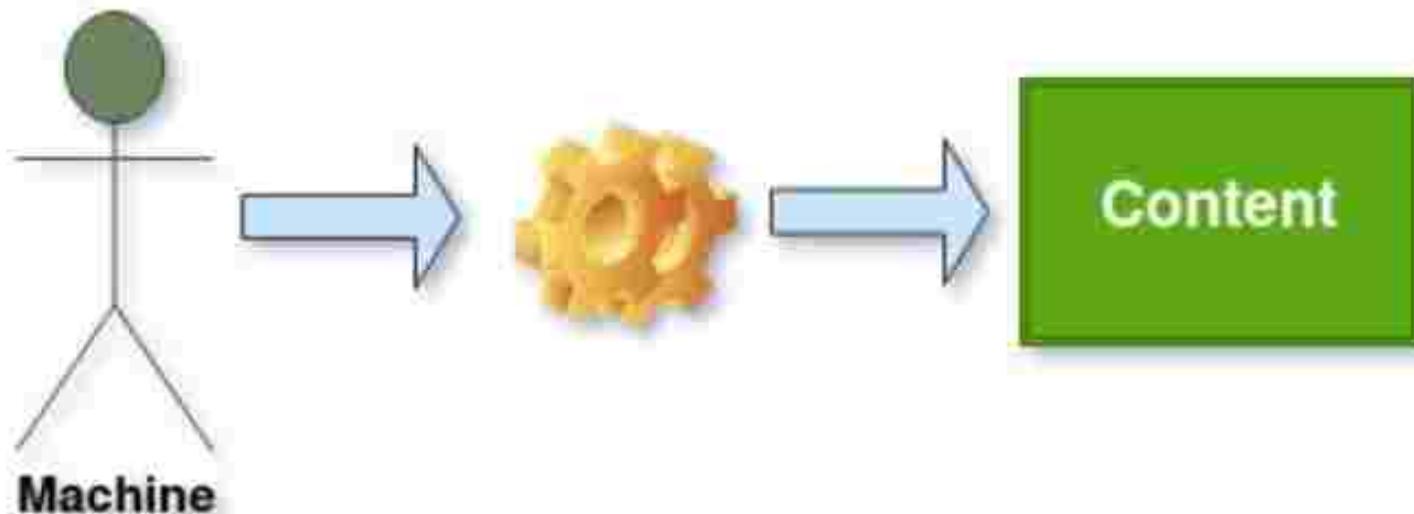
Doorway Pages: These are those unwanted pages that act as mediators between the actual content and the audience. These are created to rank highly for specific keywords which has nothing to do with the users.





SEO techniques used by Black Hat SEO

Content Automation: It refers to the process of generating content without involving humans i.e., with the use of machines. The goal behind this is to create content that is more compatible with the search engine and not focusing on the user's needs.





SEO techniques used by Black Hat SEO

Hidden Texts/Links: These are the deceptive forms of links that are almost invisible to the users. The web pages having these hidden links embedded in them looks similar to the normal pages till then these hidden links are not assessed.

It can be done in the following ways:

- Using the same text color as the background
- Resizing the font size Zero
- Hiding behind the image
- Placing the link on small characters like – commas, colons, etc.

Sergey and I are seriously in the business of starting new things. Alphabet will also include our X lab, which incubates new efforts like Wing, our drone delivery effort. We are also stoked about growing our investment arms, Ventures and Capital, as part of this new structure.

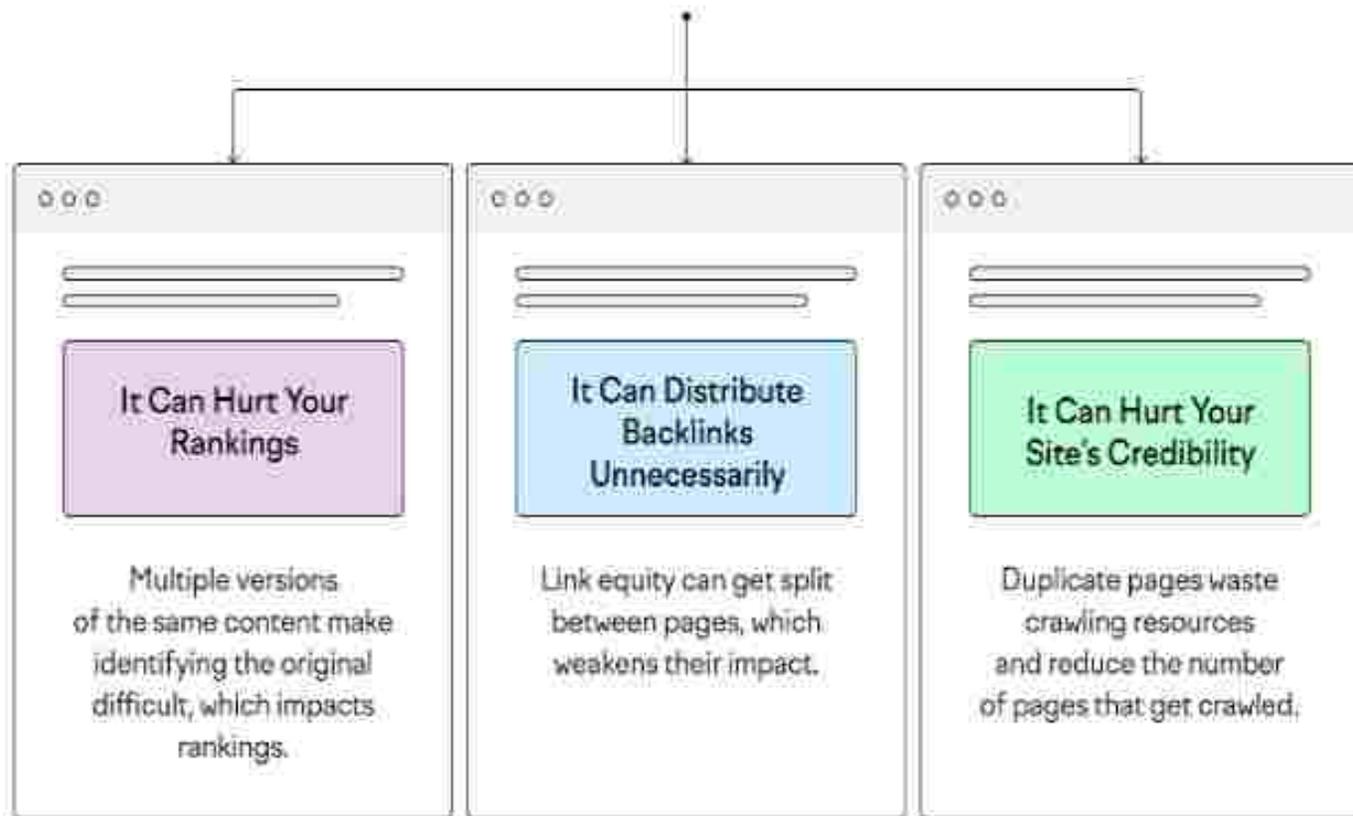
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<p>Sergey and I are seriously in the business of starting new things. Alphabet will also include our X lab, which incubates new efforts like Wing, our drone delivery effort<a href="http://www.hooli.xyz/" target="_blank" class="hidden-link">.</a> We are also stoked about growing our investment arms, Ventures and Capital, as part of this new structure.</p>
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SEO techniques used by Black Hat SEO

Content: The duplicity of content is one of the most used Black Hat SEO techniques. Even Google has updated its algorithm to analyze if the content on your site is original or stolen from any other site. Google always prefers the original content.

How Does Duplicate Content Impact SEO?





SEO techniques used by Black Hat SEO

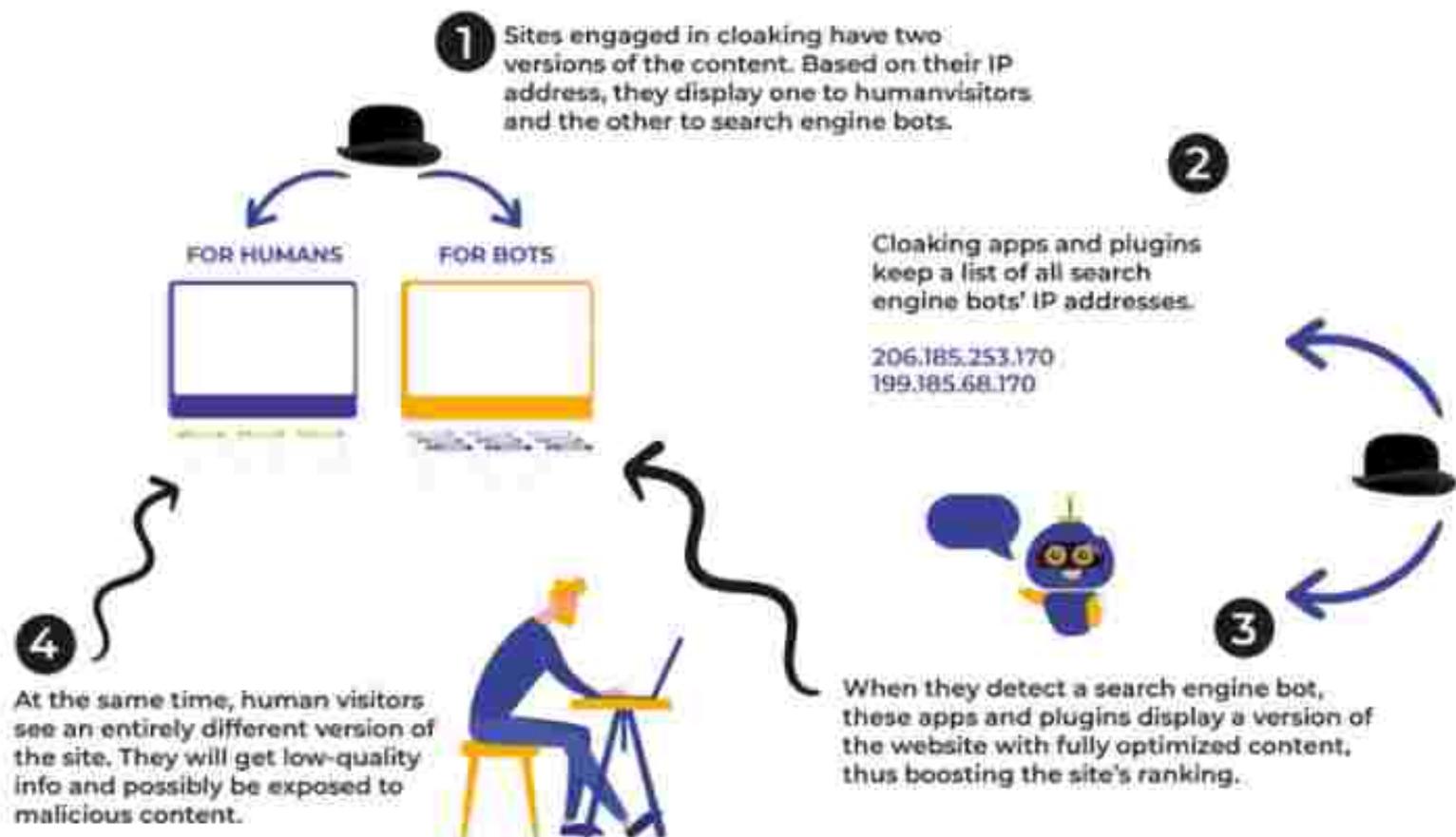
Sneaky Redirects: It is the process of redirecting the users to a different URL, not the one that they requested. However, there are good reasons too to redirect the user from one URL to another but mostly it is used for some malicious activities.





SEO techniques used by Black Hat SEO

Cloaking: It involves the practice of showing different content to users and search engines. For example, you search for the keyword "mathematics" and visit the related website after search, and it redirects to you a completely different content.





SEO techniques used by Black Hat SEO

Paid Links: Yes, Paid Links also fall under the Black Hat SEO category as if you are trying to enhance your domain authority by selling links, Google will de-index your site. There are many other Black Hat SEO techniques as well which work against the guidelines of Google.

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Paid Searches



➤ White Hat SEO

White Hat SEO



WHITE HAT SEO

- ★ Key Research
- ★ Relevant Content and Links
- ★ Well-Labeled Image
- ★ Linking to/ Getting Links from Relevant Industry Sources
- ★ Complete Sentences with good Spelling and Grammar

White Hat SEO is an ethical approach to optimizing your website for search engines.



SEO techniques used by White Hat SEO



- ✓ **Quality Content:** Create high-quality, relevant, and valuable content for your audience. Regularly update and refresh your content to ensure it stays current and informative.
- ✓ **Keyword Optimization:** Conduct keyword research to identify relevant and high-traffic keywords. Naturally incorporate keywords into your content, titles, headings, and meta tags.
- ✓ **Title and Meta Description Optimization:** Write compelling and relevant titles and meta descriptions for each page. Ensure that they accurately reflect the content of the page and entice users to click.
- ✓ **Quality Backlinks:** Build high-quality, natural backlinks from authoritative and relevant websites. Focus on earning links through valuable content rather than engaging in manipulative link-building practices.
- ✓ **User Experience (UX):** Create a user-friendly website with a clear navigation structure. Optimize page loading speed and ensure that your website is mobile-friendly.



SEO techniques used by White Hat SEO



- ✓ **Mobile Optimization:** Optimize your website for mobile devices to provide a seamless experience for mobile users
- ✓ **Social Media Presence:** Engage with your audience on social media platforms. Share your content on social media to increase its visibility and reach.
- ✓ **Site Structure and Navigation:** Ensure that your website has a logical and organized structure. Use clear and descriptive URLs, and create a sitemap to help search engines index your content.
- ✓ **Internal Linking:** Use internal links to connect related content within your website. This helps search engines understand the structure of your site and improves user navigation.
- ✓ **Responsive Design:** Design your website to be responsive and adaptable to different screen sizes and devices.



Best SEO Tools





Pros of SEO



It makes you appear to people interested in what you are selling precisely when they are looking for it.



Generates organic visits.



Increases the visibility of your brand.



Helps you close sales in less time.



Makes you a leader in your market niche.



Guarantees you offer valuable content to your audience.



Attracts potential customers.



Avoid annoying users who are not interested in your company.



Generates a high return on investment.



It lasts over time.

Cons of SEO



It requires time and patience.



You compete with your niche on the rest of the Internet.



It is complex to predict your results with accuracy.



It requires constant maintenance.



It does not give profits at the beginning.



The cost of services is high because there is less supply of specialists.



It can generate penalties if it is done badly.