Vision forward

Tracing Image SEO from its roots to AI-enhanced horizons

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Head of Search and SEO
@roxanastingu

alamy

FRIENDS OF SEARCH BY DDMA iab.

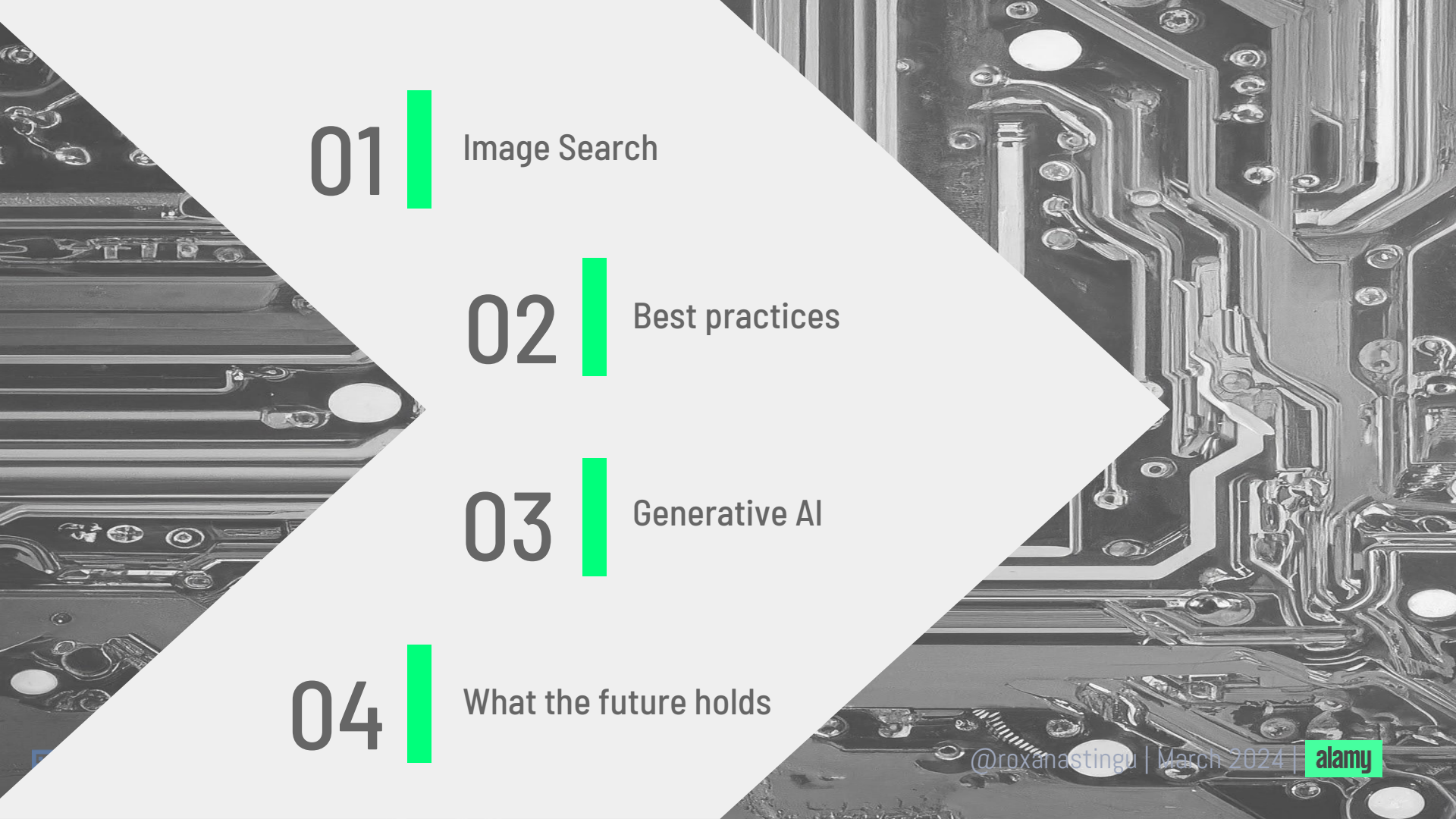
Amsterdam 2024

Intro

Search fanatic

Tech SEO

AI enthusiast



01 Image Search

02 Best practices

03 Generative AI

04 What the future holds

01

Image Search

It all started with a green dress...

New search facet for Images

At first there were only JPEGS

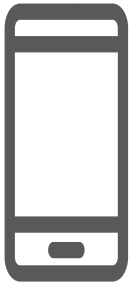
Images are everywhere

Images in Google Web Search

Data from SEMRush Sensor on March 10th, 2024

US 44%

UK 43%



US 67%

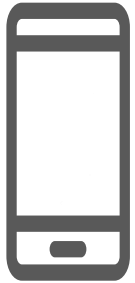
UK 64.5%

Images in Google Web Search

Data from SEMRush Sensor on **May 2023**

US 45%

UK 33%



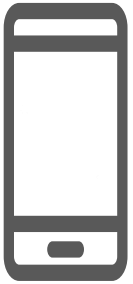
US 53%

UK 48%

Images in Google Web Search

Change in 10 months

US	45%	-2%
UK	33%	+30%

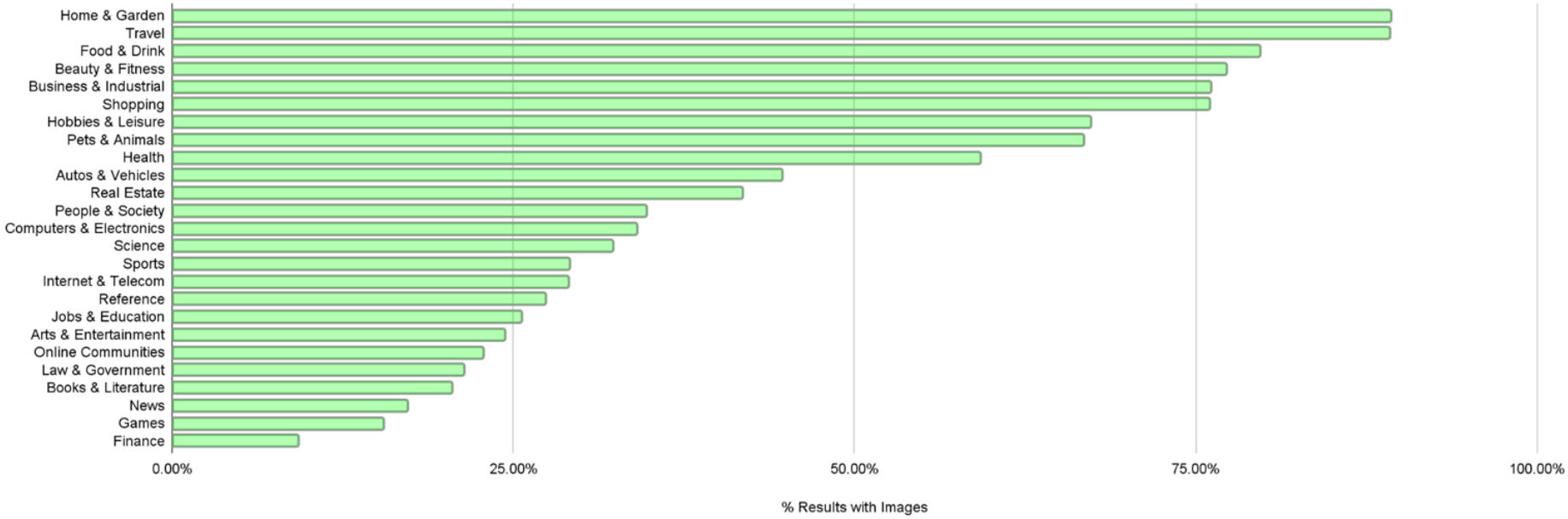


US	53%	+26%
UK	48%	+34%

FRIENDS OF SEARCH BY DDMA iab

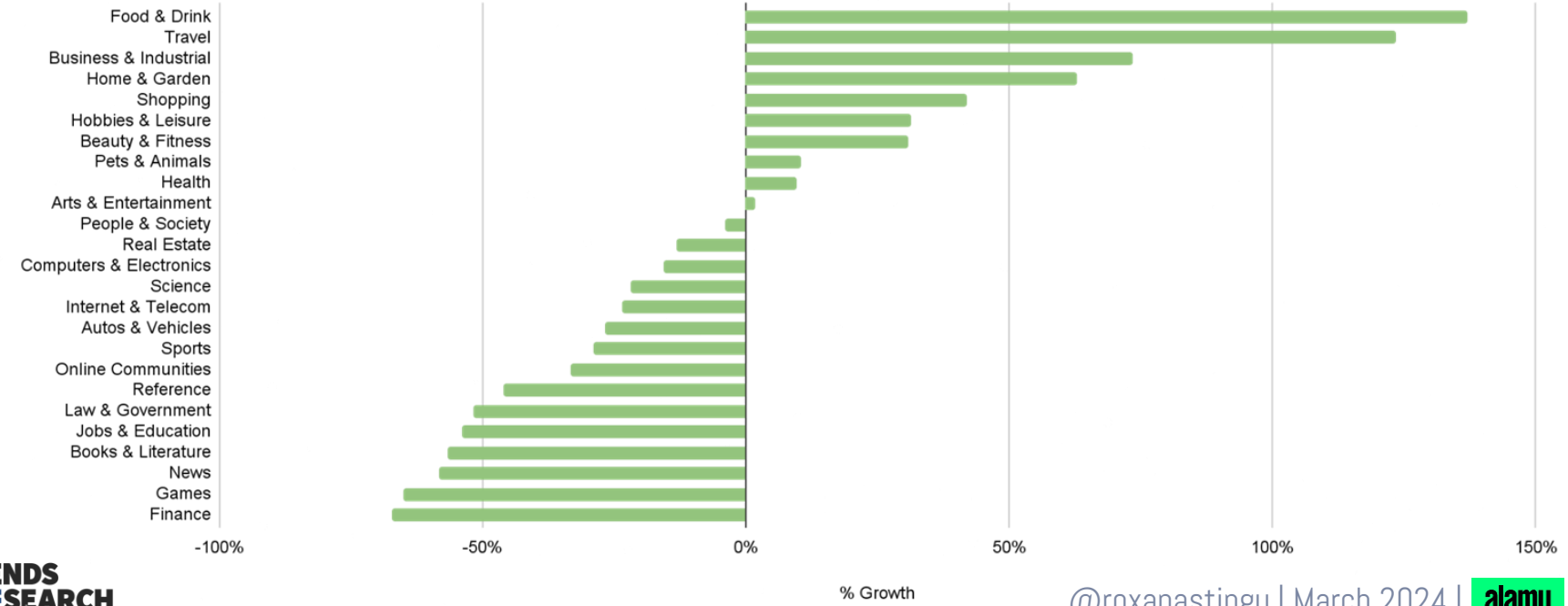
% of results with Images in Web Search

SEMRush Sensor data, US Desktop, March 10th, 2024



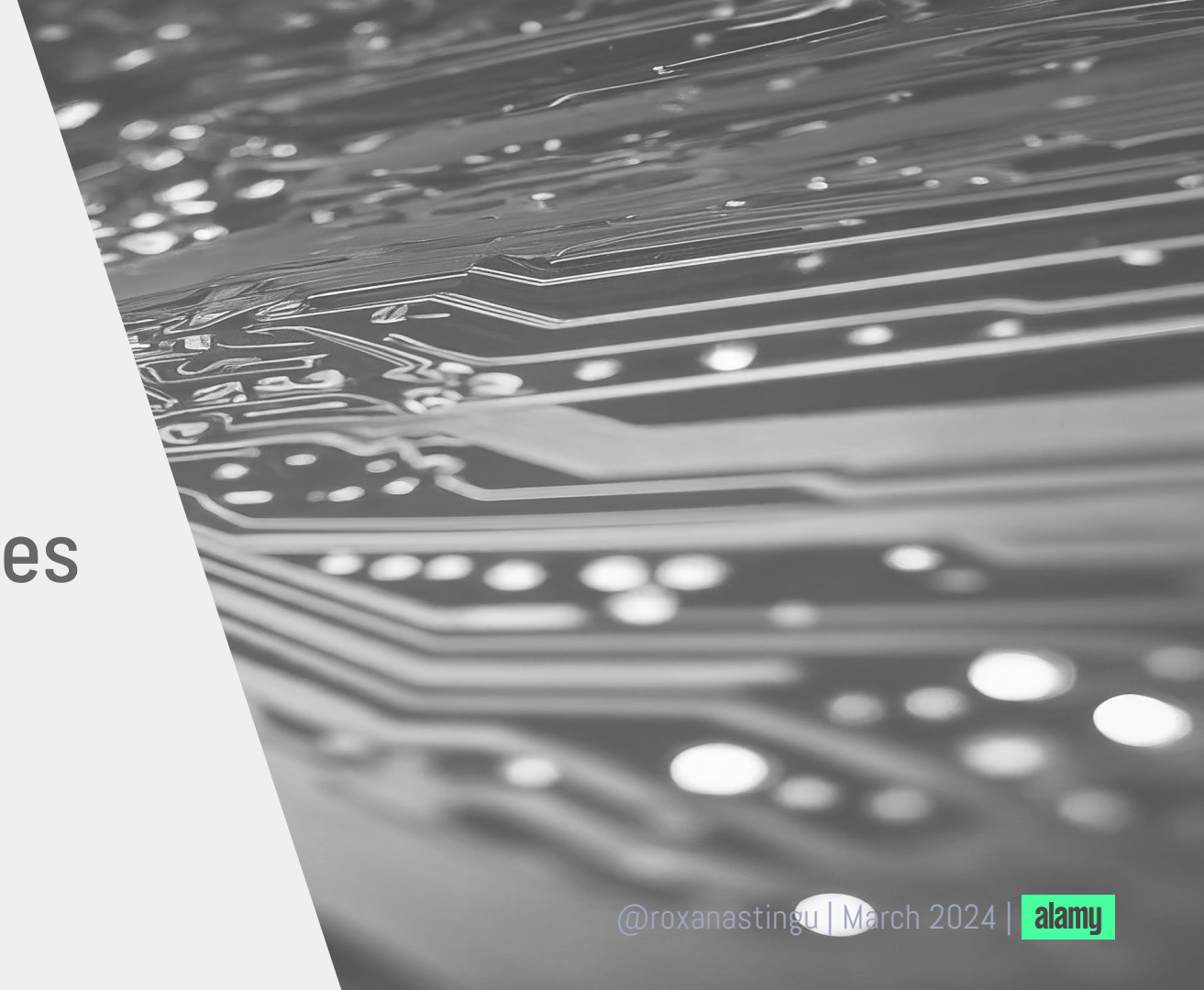
% growth by niche

SEMRush Sensor data, US Desktop, March 10th, 2024 Compared to May 2023



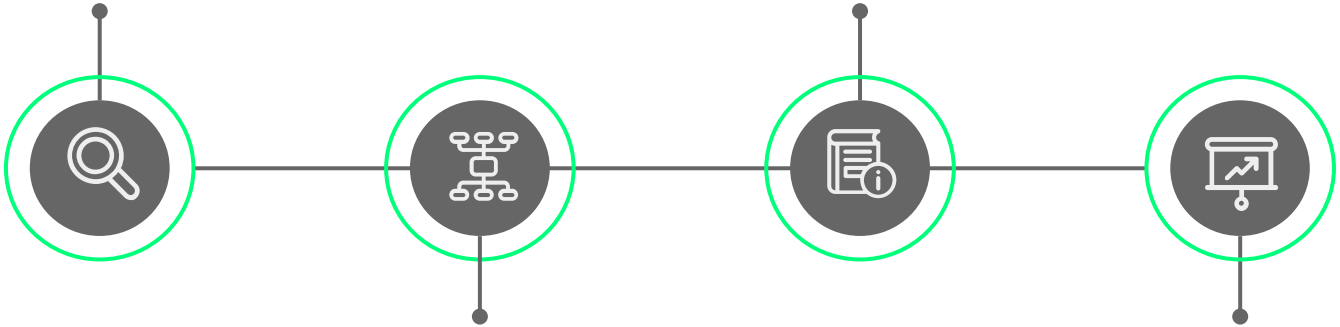
02

Best Practices



DISCOVERY

INDEXING



CRAWLING

RANKING

DISCOVERY

Image sitemaps

```
<?xml version="1.0" encoding="UTF-8"?>
<urlset xmlns="http://www.sitemaps.org/schemas/sitemap/0.9"
        xmlns:image="http://www.google.com/schemas/sitemap-image/1.1">
  <url>
    <loc>https://www.example.com/sample1.html</loc>
    <image:image>
      <image:loc>https://www.example.com/image1.jpg</image:loc>
      <image:caption>Succinct sentence to describe the image</image:caption>
      <image:geo_location>Amsterdam, Netherlands</image:geo_location>
      <image:title>Image title</image:title>
      <image:license>Image Archive License, Standard Use</image:license>
    </image:image>
  </url>
</urlset>
```

Required

Deprecated

DISCOVERY

HTML

<img>

```
<img src="image1.jpg" alt="Succinct visual description of the image" />
```

** **

```
<div style="background-image:url(image1.jpg)">Succinct visual
description of the image</div>
```

HTML: Responsive and image formats

<picture><source>

```
<picture>
   <source
       srcset="image-small.png 320w, image-
medium.png 800w,
image-large.png 1200w"
       sizes="(min-width: 60rem) 80vw,
        (min-width: 40rem) 90vw, 100vw">
   <img src="image-large.png" alt="Succinct
visual description of the image">
</picture>
```

Lazy loading

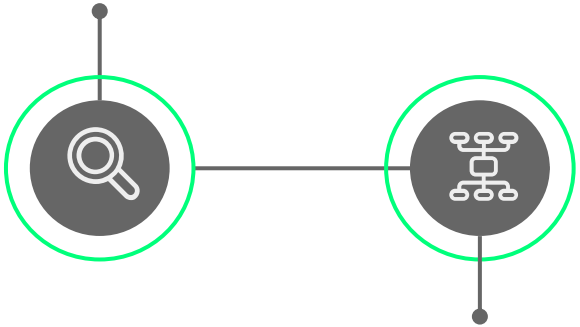
Browser level

```
<img
    src="image.png"
    loading="lazy"
    alt=”Succinct visual
    description of the
    image">
```

Intersection observer

```
<img
    class="lazy"
    src="image.png"
    data-src="image.png"
    alt="Succinct visual
    description of the
    image">
```

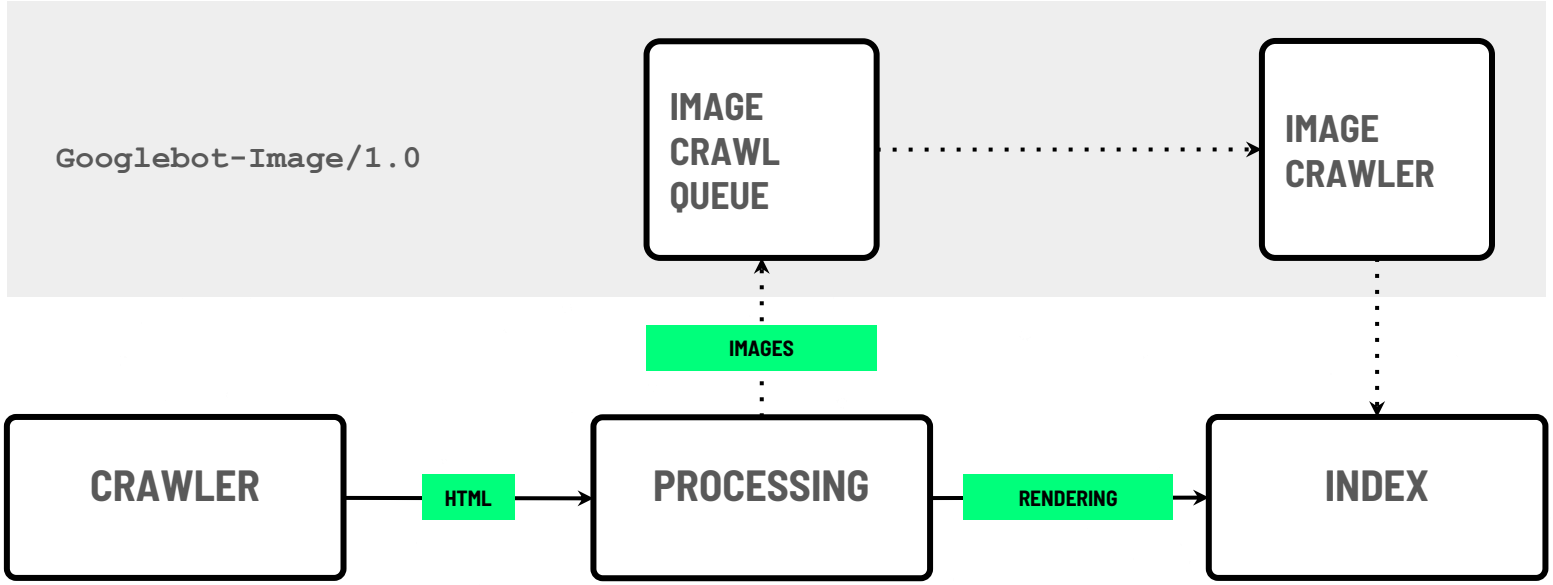
DISCOVERY



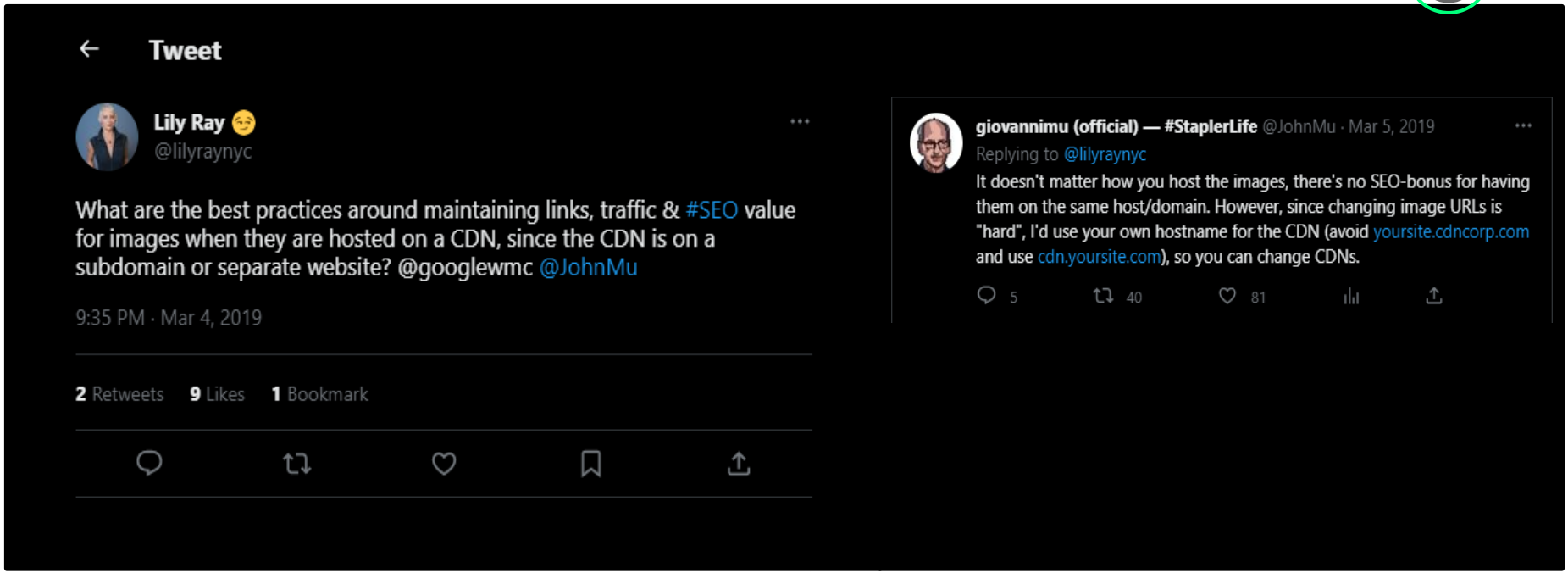
CRAWLING

The basics of crawling

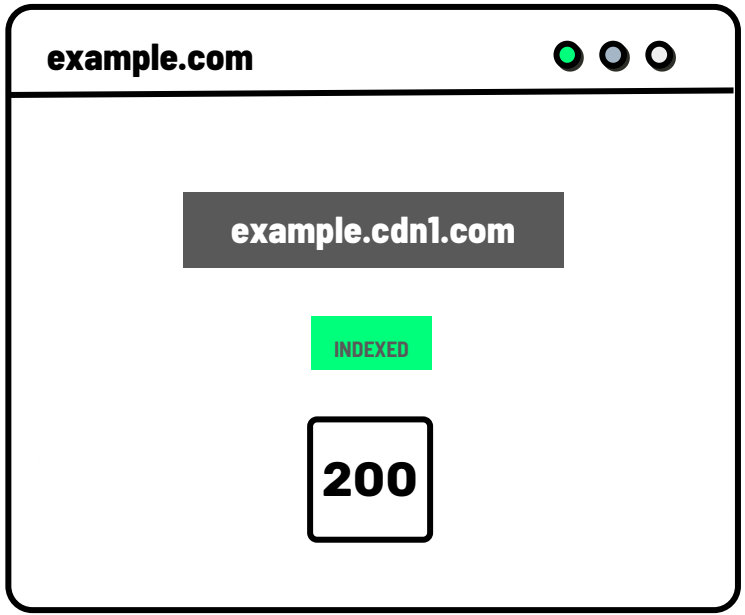
In comes Googlebot-Image



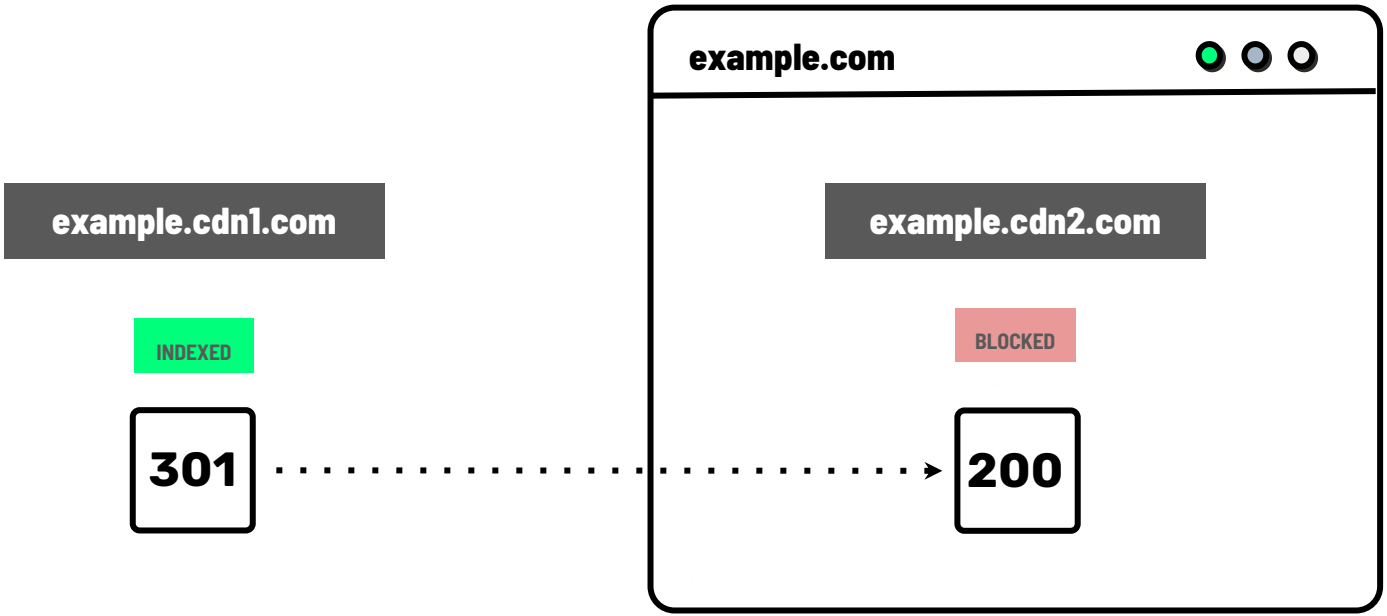
CDNs


Tweet
Lily Ray 😏
@lilyraynyc
What are the best practices around maintaining links, traffic & #SEO value for images when they are hosted on a CDN, since the CDN is on a subdomain or separate website? @googlewmc @JohnMu
9:35 PM · Mar 4, 2019
2 Retweets 9 Likes 1 Bookmark
giovannimu (official) — #StaplerLife @JohnMu · Mar 5, 2019
Replying to @lilyraynyc
It doesn't matter how you host the images, there's no SEO-bonus for having them on the same host/domain. However, since changing image URLs is "hard", I'd use your own hostname for the CDN (avoid yoursite.cdncorp.com and use cdn.yoursite.com), so you can change CDNs.
5 40 81

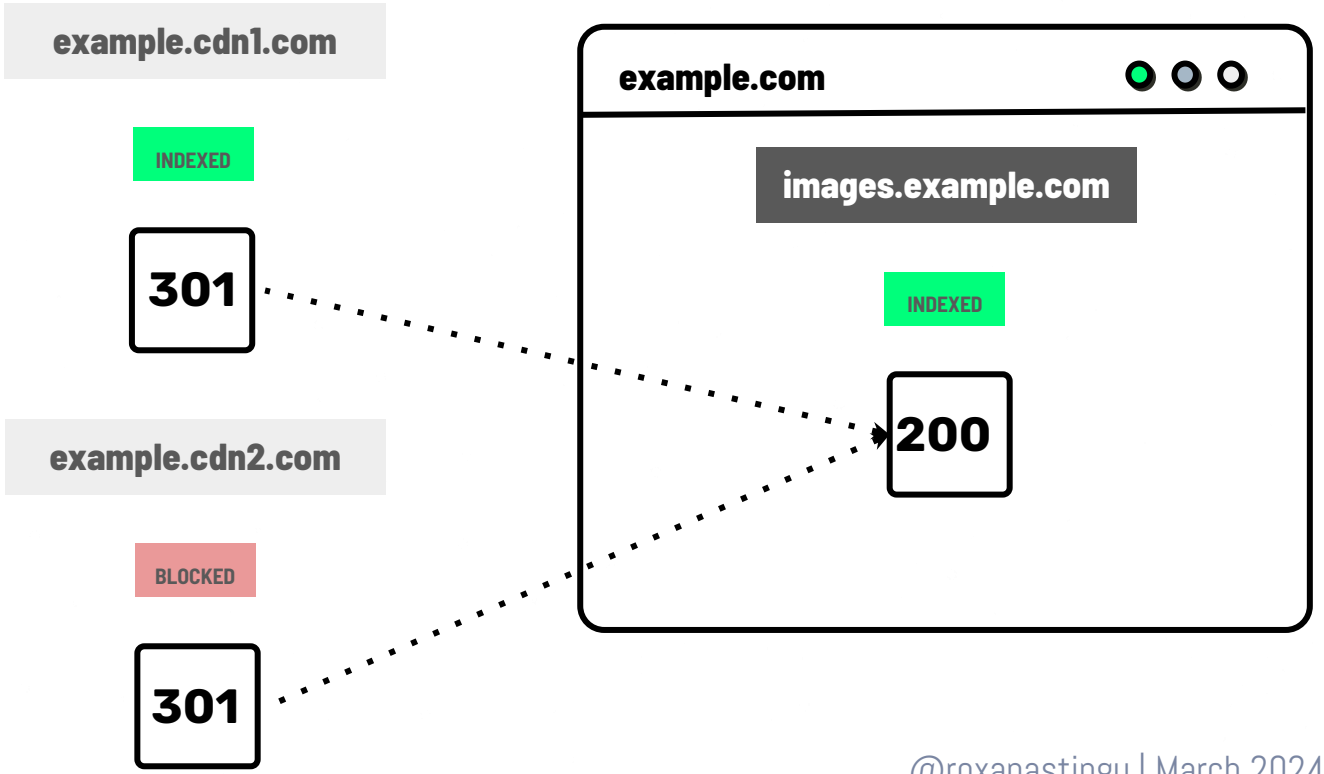
CDNs + Redirects



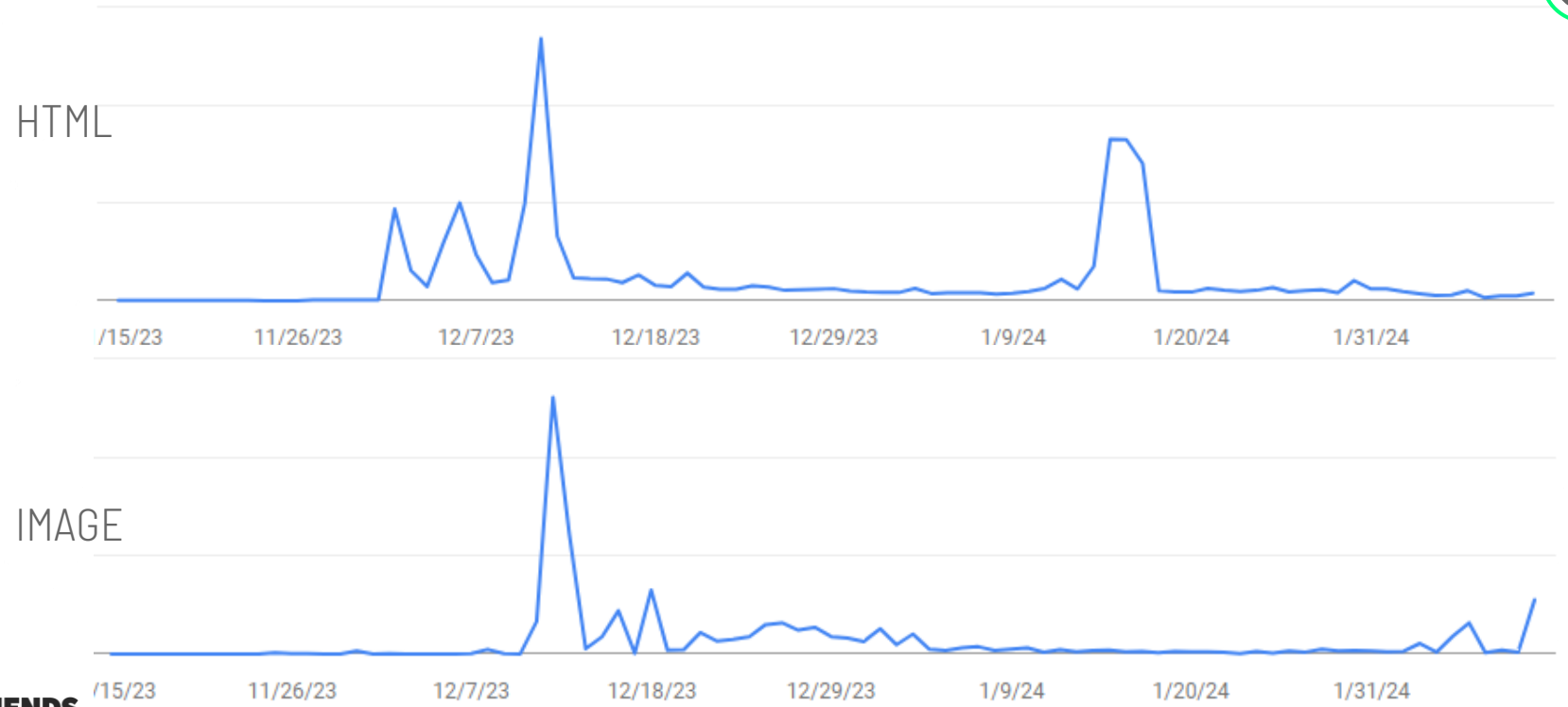
CDNs + Redirects



CDNs + Redirects



Crawls by Filetype



CRAWLING

Expect delayed results in Image Search

WEB SEARCH

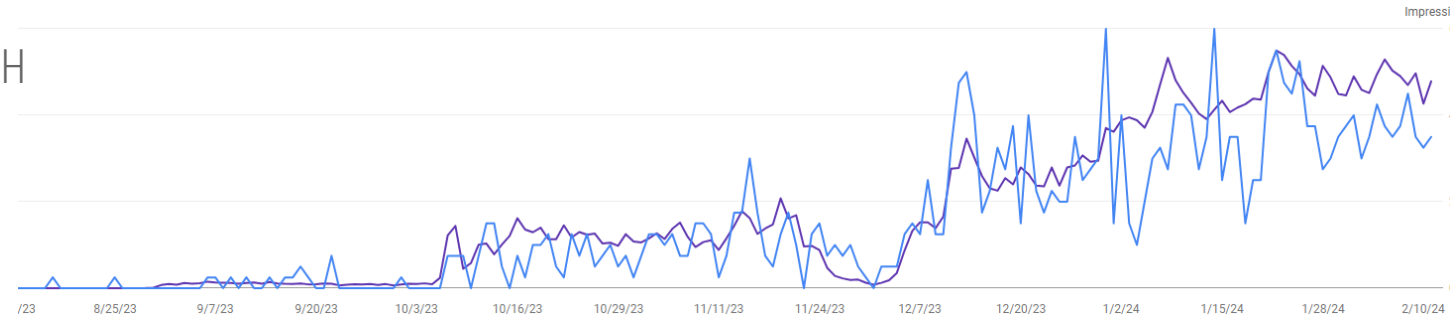
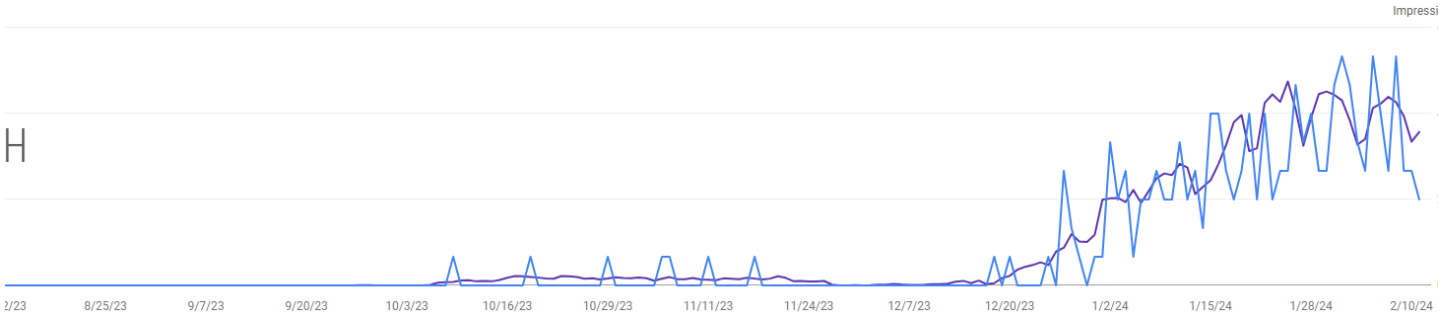
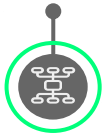


IMAGE SEARCH





Canonicalisation

1

I've set a canonical (`.htaccess`) header from an image to another one.

For instance:

```
site.com/image-small.jpg
```

has a canonical header to:

```
site.com/image.jpg (Original image).
```

However the website only uses the `image-small.jpg` and because of that, `image.jpg` was never read by Google and is not indexed (only `image-small.jpg` is). After about a week, the image was removed from the results.

Is it normal for Google to remove credit from content because the original content is poorly indexed?

No canonicalisation for images

1 Answer

Sorted by: Highest score (default)

2

Google doesn't use rel=canonical headers for images, so you're probably just seeing normal fluctuations (there's no guarantee of indexing).

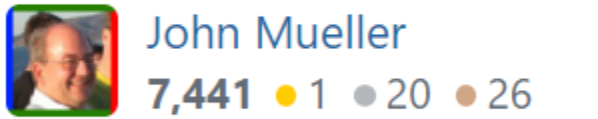
Share Improve this answer Follow

answered Mar 28, 2017 at 19:36

John Mueller

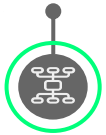
7,441 ● 1 ● 20 ● 26

Advice still stands*



*Last checked on January 15th, 2024

Blocking crawls to images

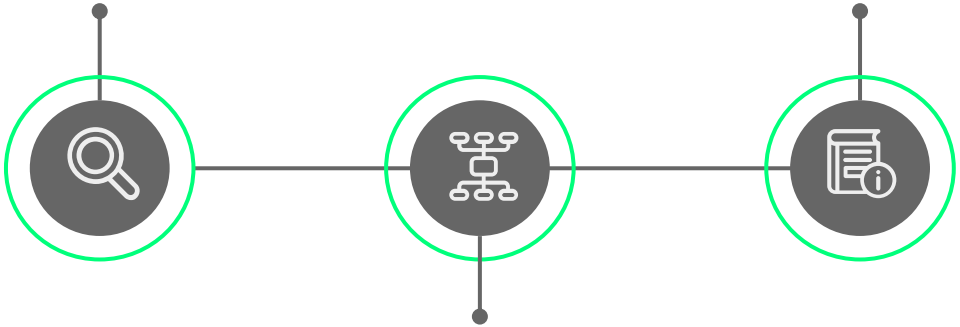


robots.txt

```
User-agent: Googlebot-Image
Disallow: /very-secret-images/
```

DISCOVERY

INDEXING



CRAWLING

Indexable image formats

JPG

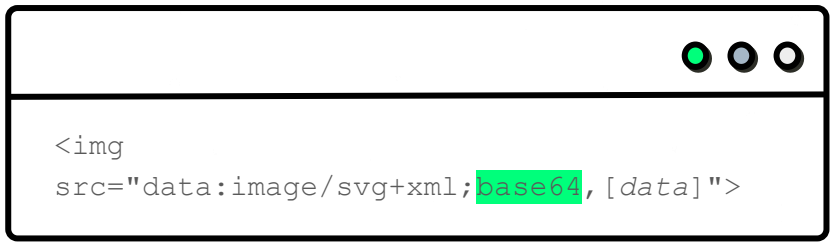
PNG

GIF

BMP

WEBP

SVG



```
<img
src="[data]">
```

Image retrieval patent

US8923626B1
United States

Download PDF | Find Prior Art | Similar

Inventor: Henrik C. Stewenius

Current Assignee : Google LLC

Worldwide applications

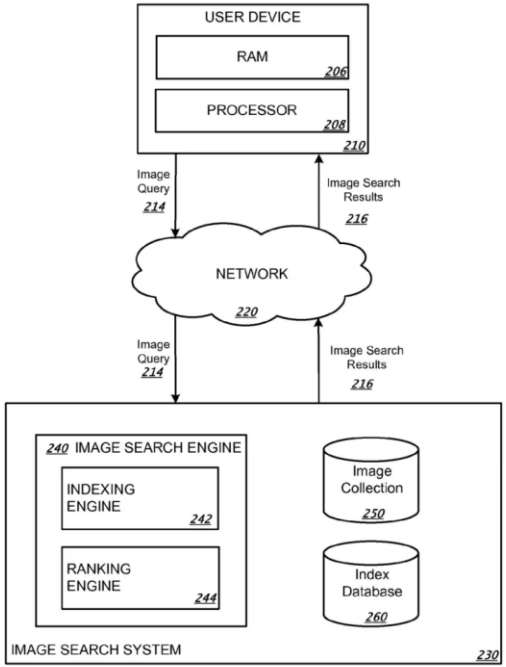
2012 • US

Application US13/531,912 events

2012-06-25 • Application filed by Google LLC
2012-06-25 • Priority to US13/531,912
2012-07-31 • Assigned to GOOGLE INC.
2014-12-30 • Application granted
2014-12-30 • Publication of US8923626B1
2017-10-02 • Assigned to GOOGLE LLC
Status • Active
2033-06-22 • Adjusted expiration

Info: Patent citations (10), Cited by (6), Legal events, Similar documents, Priority and Related Applications

External links: USPTO, USPTO PatentCenter, USPTO Assignment, Espacenet, Global Dossier, Discuss



Textual information

Text around images
Alt attribute values
Image captions
Anchor texts
Metadata
File name

WEB DOCUMENT

THE INDEX

Keeping images out of the index

Meta robots tag

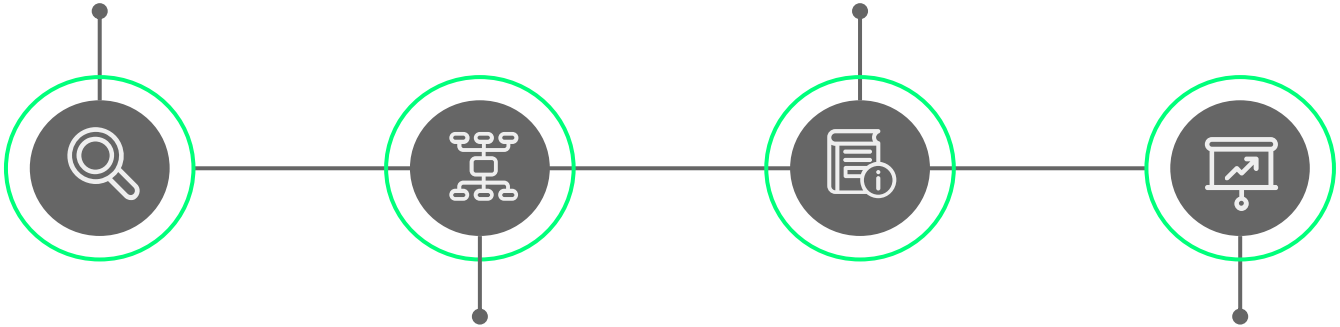
```
<meta name="robots"
content="noimageindex,
nofollow">
```

X-robots tag

```
header ("X-Robots-Tag:
noimageindex, nofollow", true);
```

DISCOVERY

INDEXING



CRAWLING

RANKING

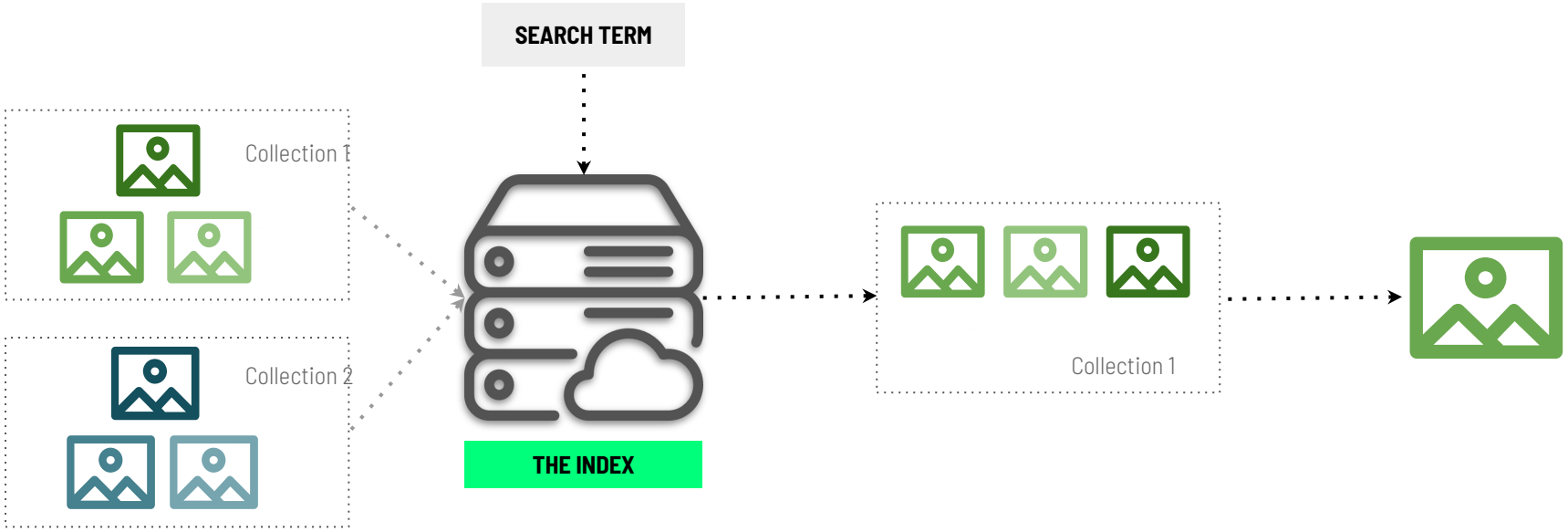
The basics of ranking for images

✓ **PAGE WITHOUT IMAGE**

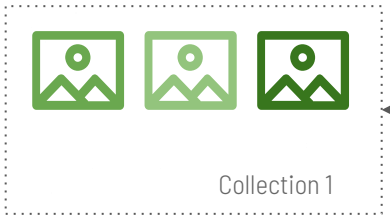
✗ **IMAGE WITHOUT PAGE**

RANKING

How images are ranked



What can influence the order of images in a collection



Relevancy
Location
Probability to navigate to an image
Size & quality

RANKING

What is image size?

File size

123 kb

Image resolution

1200px wide

Aspect ratio

16x9, 4x3, and 1x1

RANKING

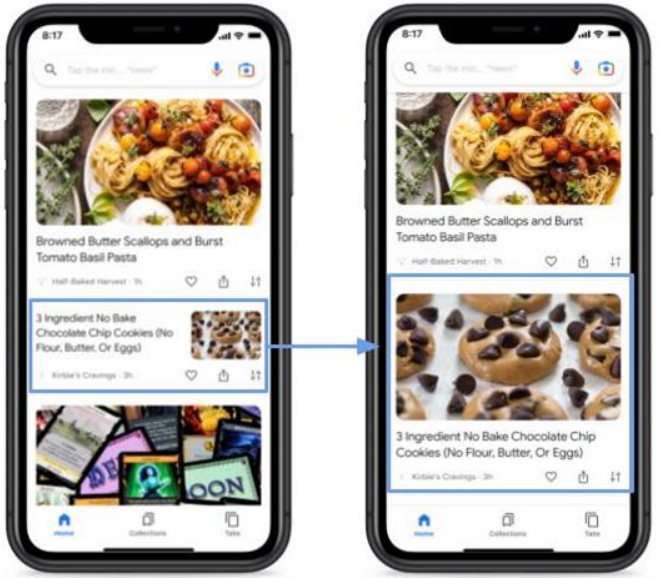
Control image previews

Meta robots tag

```
<meta name="robots" content="max-image-preview:large">
```

Meta robots tag

```
<meta name="robots" content="max-image-preview:none">
```



Default thumbnail experience

Large image experience

RANKING

Does Google use EXIF?

2014

"The short answer is: [...] it is something that Google is able to parse out, and I think we do reserve the right to use it in ranking."
Matt Cutts

Does Google use EXIF?

2014

"The short answer is: [...] it is something that Google is able to parse out, and I think we do reserve the right to use it in ranking."
Matt Cutts

2017

"This is still the same as before."
John Mueller

RANKING

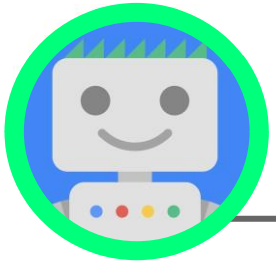
Does Google use EXIF?

2014

"The short answer is: [...] it is something that Google is able to parse out, and I think we do reserve the right to use it in ranking."
Matt Cutts

2017

"This is still the same as before."
John Mueller



2024

"To tell Google about your image metadata, add structured data or IPTC photo metadata to each image on your site."
Google Search Central Documentation - Image metadata in Google Images

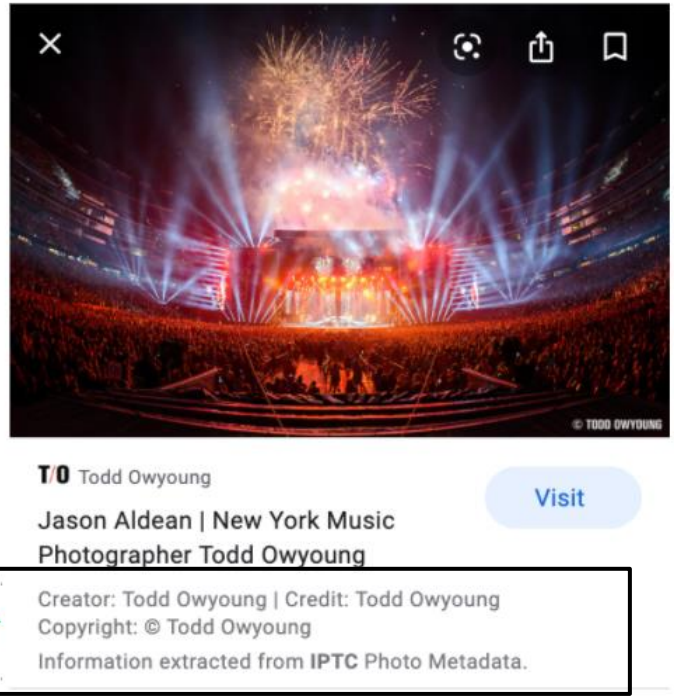
RANKING

Image Rights Metadata

Creator

Credit line

Copyright notice

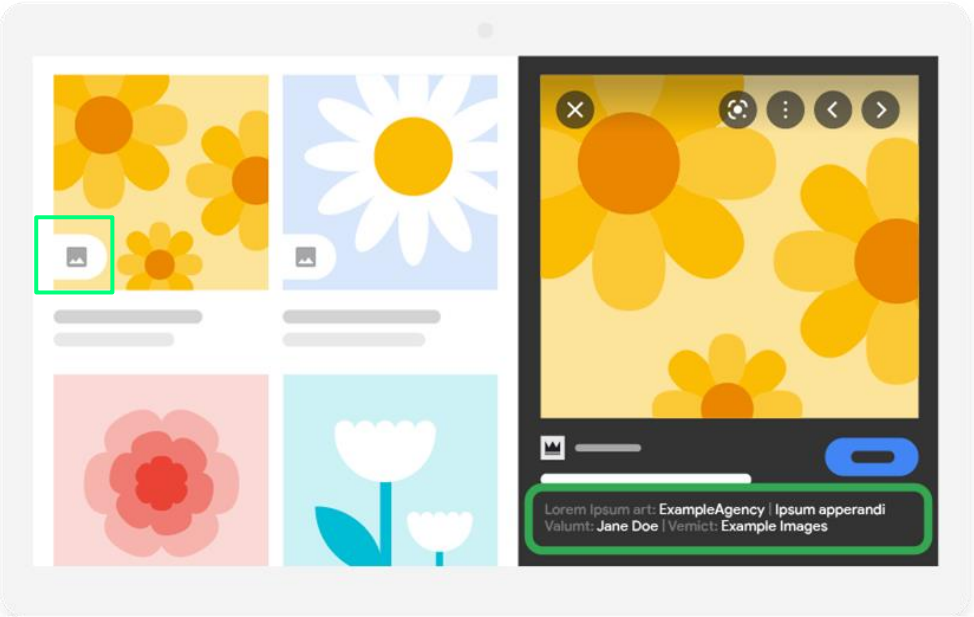


RANKING

Licensable Badge

license

acquireLicensePage



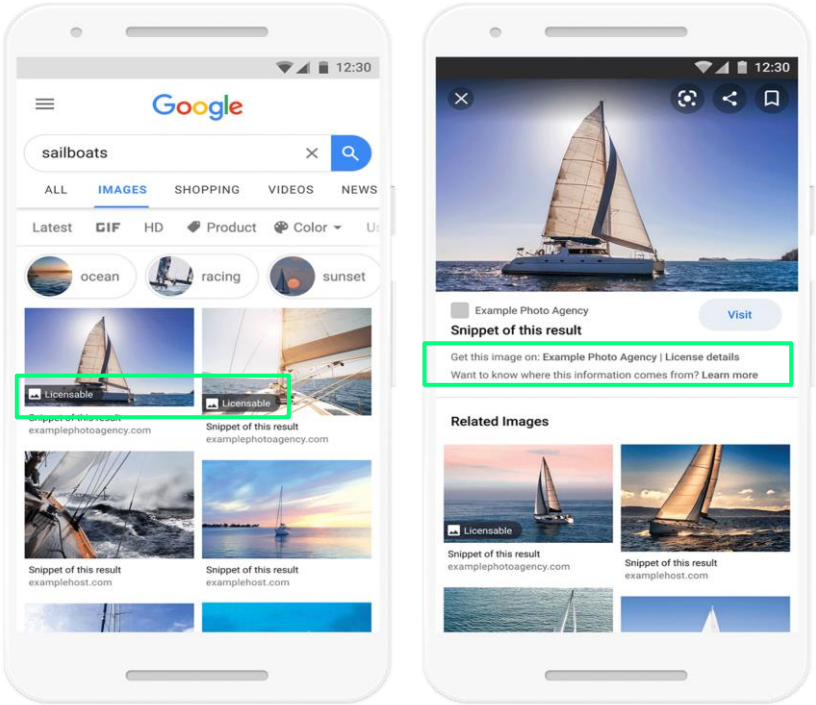
RANKING

Structured data v. IPTC

Structured data

Page specific

Creates rich snippets for your pages that are ranking for a specific image

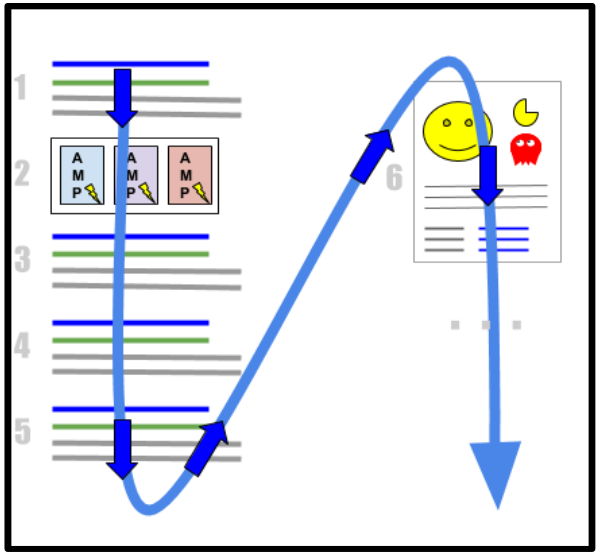


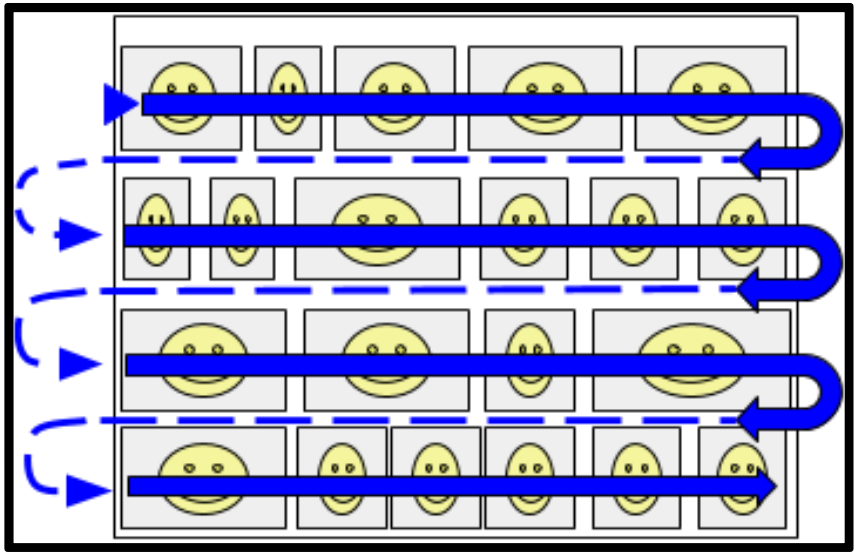
IPTC metadata

Image specific

Creates rich snippets whenever the image shows up, no matter which page is ranking

Web v. Image Search ranking



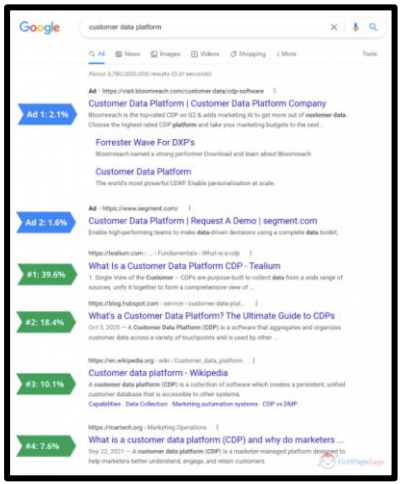


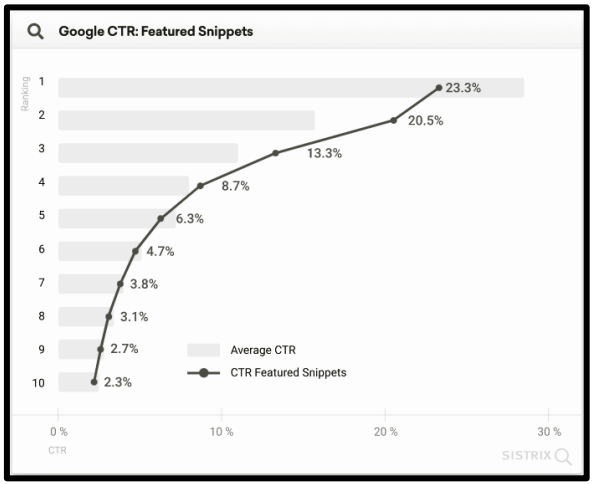
Web Search

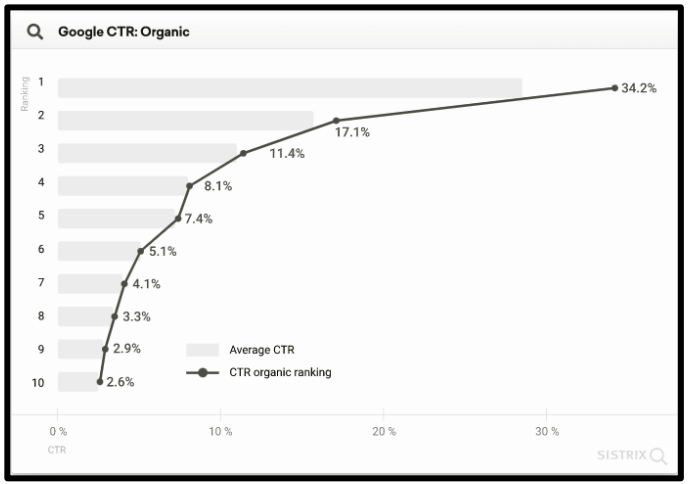
Image Search

RANKING

Best position to rank for in Web Search



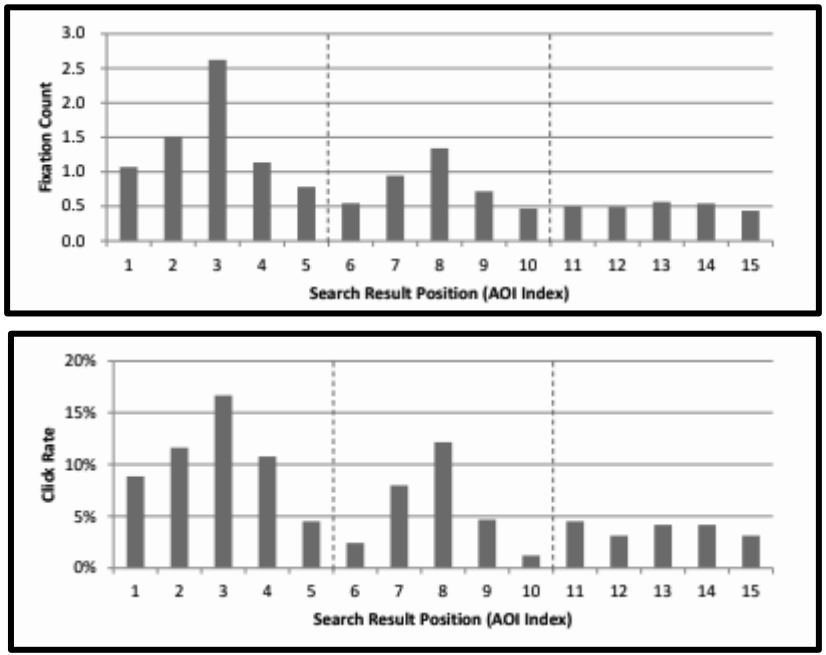


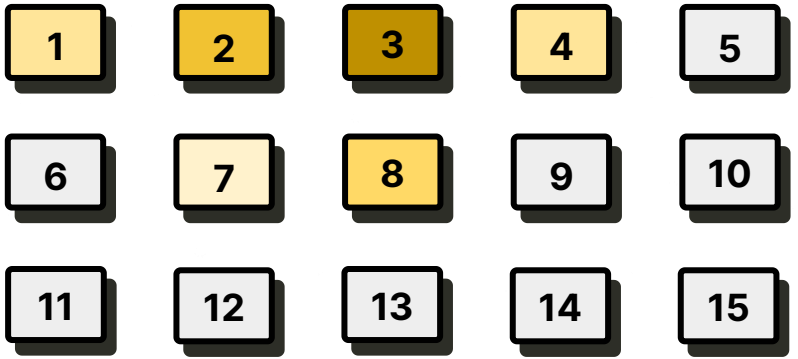


Web Search

RANKING

Eye tracking study for Image Search





FRIENDS OF SEARCH

An Eye-Tracking Study of User Behavior in Web Image Search
Wanxuan Lu and Yunde Jia Beijing Laboratory of Intelligent Information Technology, School of Computer Science, Beijing Institute of Technology, Beijing 100081, China

Spikes in impressions?

Roxana Stingu
@RoxanaStingu

Replying to @bertiecharlton

If you see keywords ranking 1st in Web Search with lots of impressions and virtually no clicks, it's most likely an image inside an image pack - clicks to these go to image search so check same keywords for clicks under Image Search rather than Web Search.

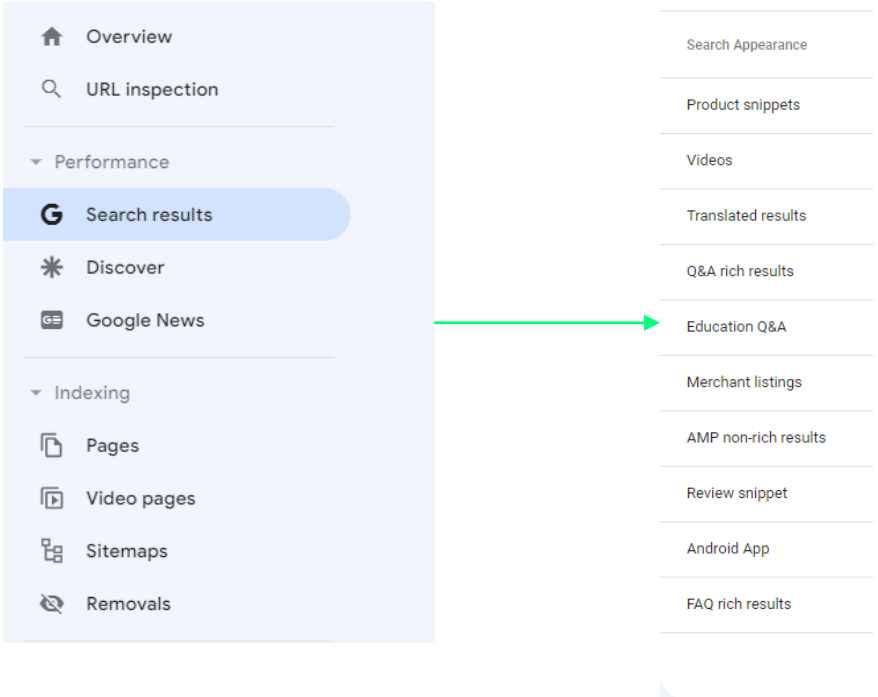
2:42 PM · Nov 5, 2021 · Twitter for Android

RANKING

Search Console - Web Search data cheat sheet

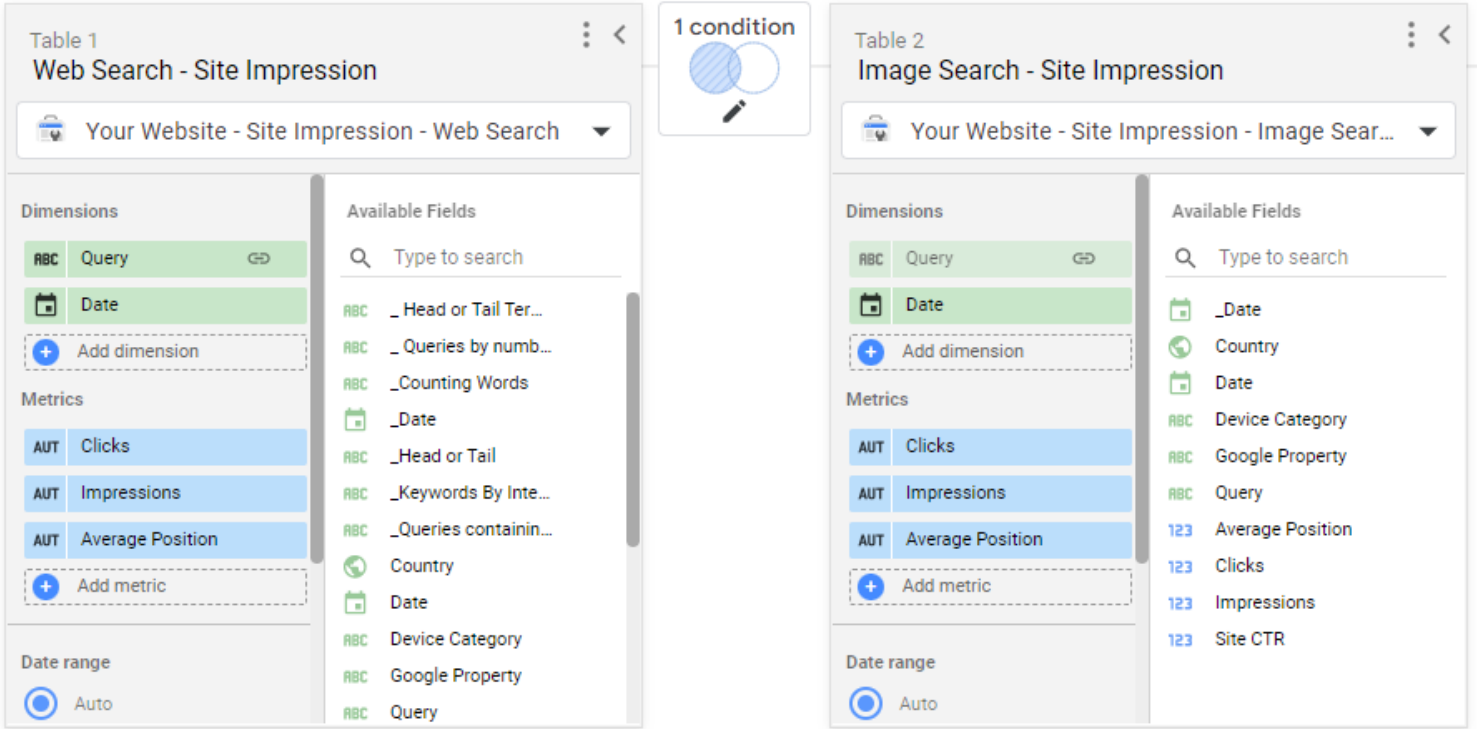
		Impressions	Clicks	Average Position
Knowledge Panel	Clicking takes you to Image Search	✓	✗ Query Refinement	Same as Knowledge Panel links, after blue links
Image Carousel	Clicking opens the Image Preview panel	✓ When Scrolled into view	✗	Space it occupies
Image Pack	Clicking takes you to Image Search	✓	✗	Space it occupies
Image Thumbnails	Clicking takes you to the website	✓	✓	Space it occupies

Search Console Search Appearance



RANKING

Get creative



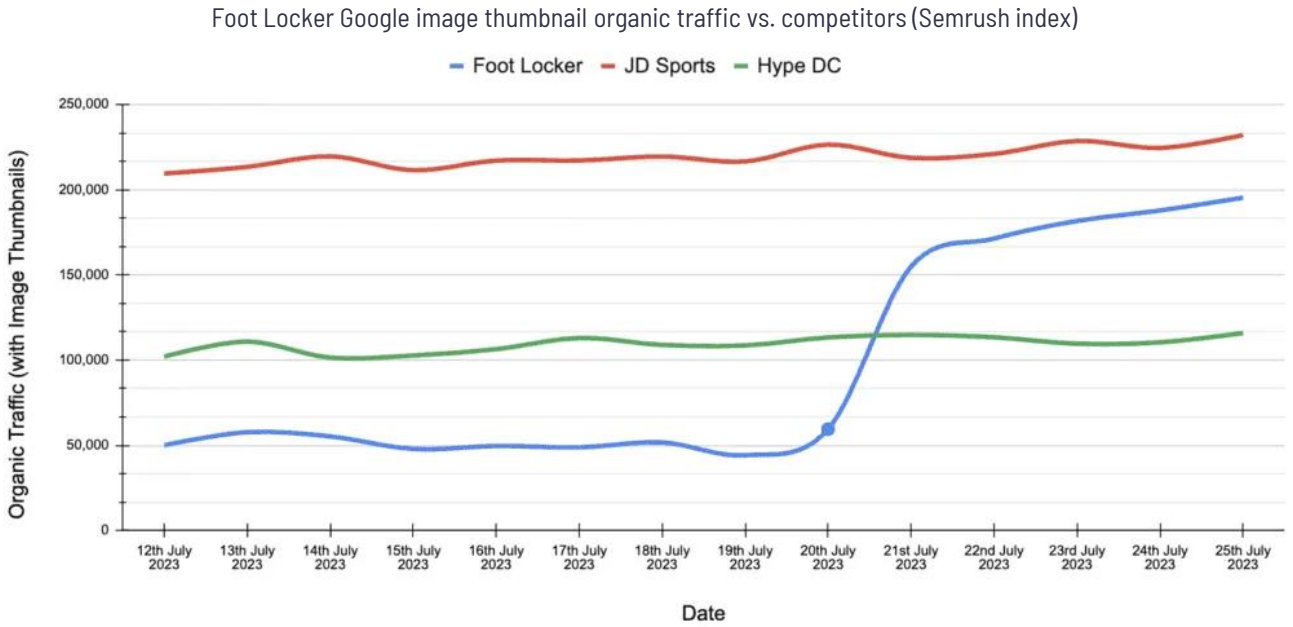
Estimate what queries appear in image packs or knowledge graphs

```
CASE
   WHEN Query (Image Search)=Query (Web Search)
      AND Average Position (Web Search) =1
      AND Web Impressions > 100
      AND Web Clicks < (Web Impressions/100)
   THEN "Image Pack or Image Carousel"
   WHEN Query (Image Search)=Query (Web Search)
      AND Average Position (Web Search) >5
      AND  Web Impressions > 100
      AND Web Clicks < (Web Impressions/100)
   THEN "Knowledge Panel"
   ELSE "Other"
END
```

Are images worth the hassle?

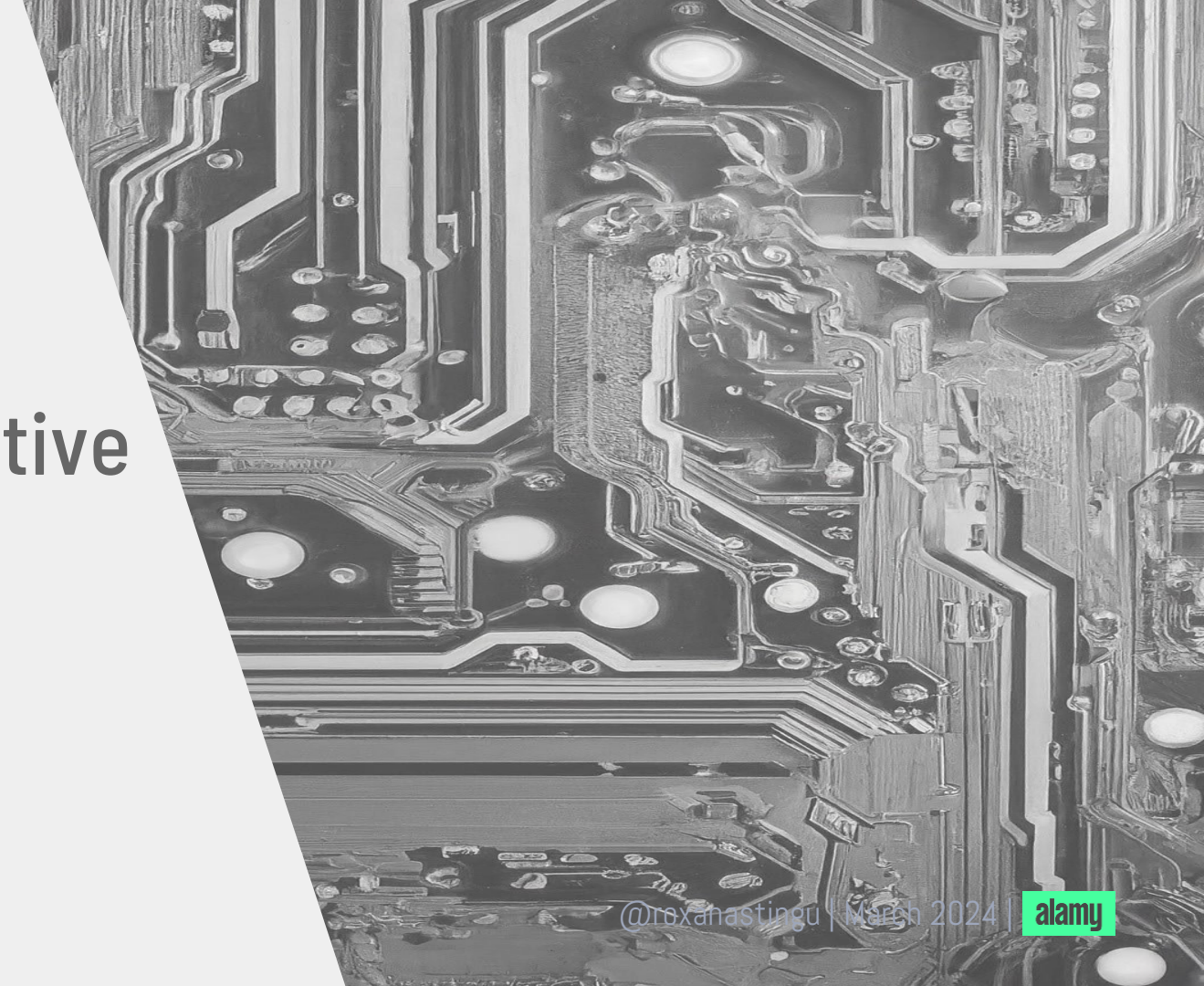
228% increase in estimated organic visits p/mo that now have image thumbnails

The change?
Image dimensions update from 67×67 to 200x200.



03

Generative AI



@roxanastingu | March 2024 | alamy

Is AI used for ranking?

RankBrain

Neural Matching

BERT

MUM

Is AI used for ranking in Image Search?

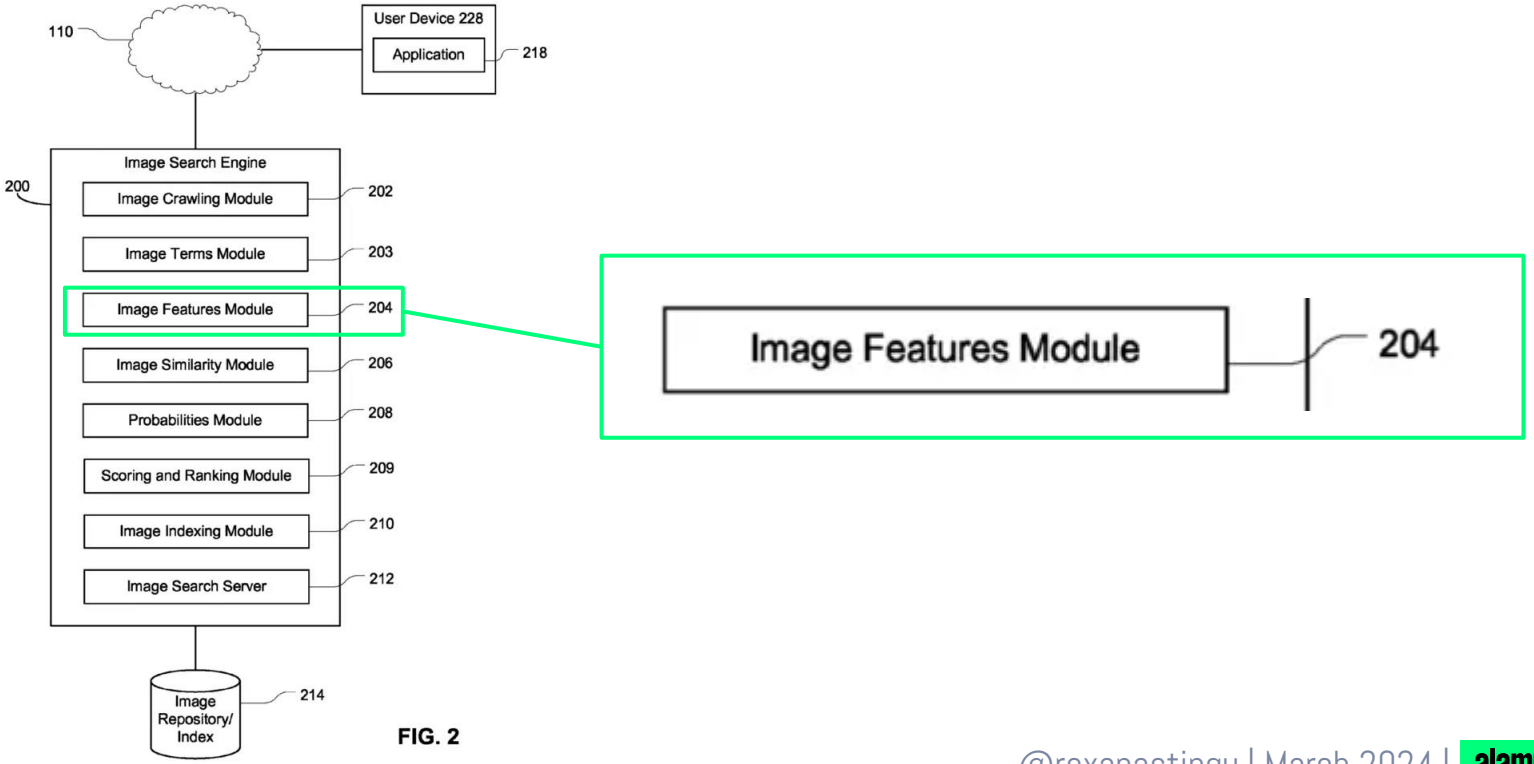


FIG. 2

Image features

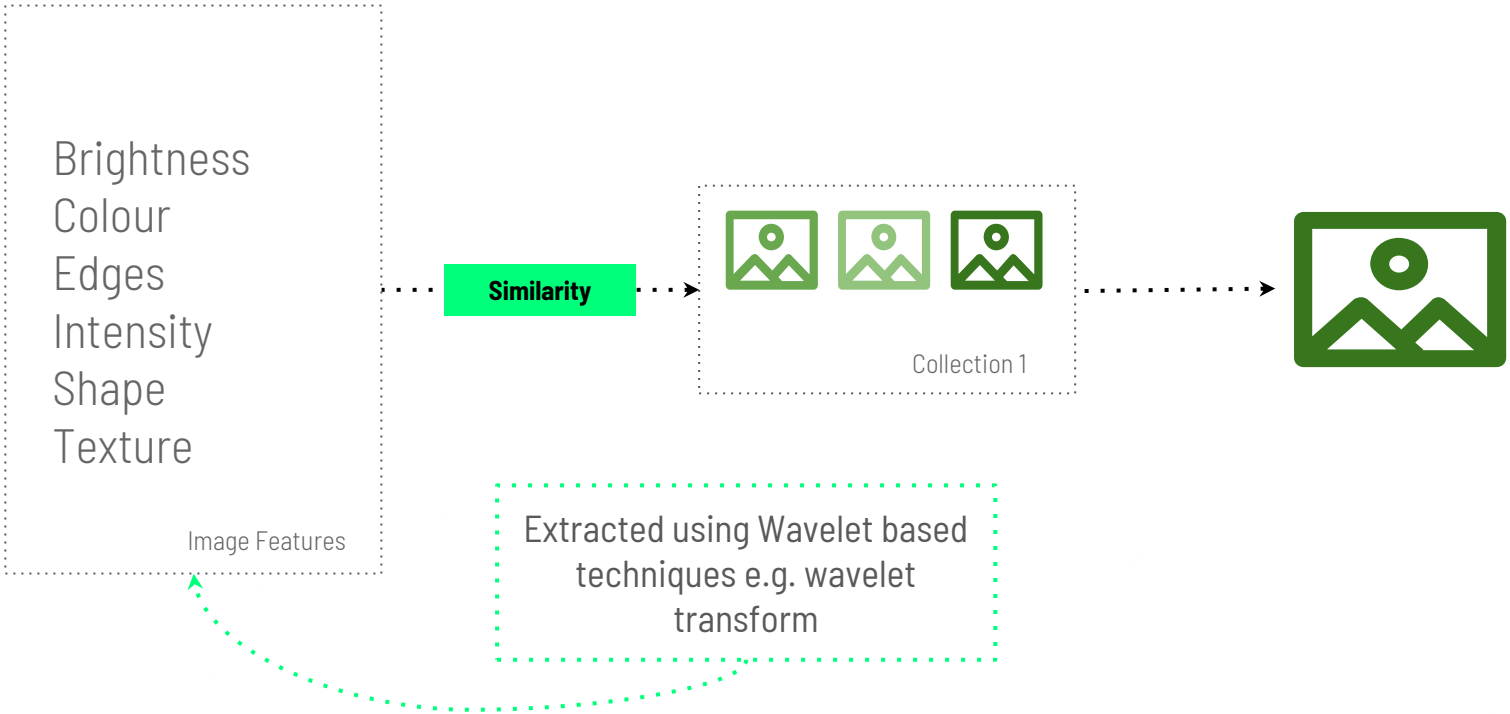


Image patents made easy

Bill Slawski

seobythesea.com

JC Chouinard

jcchouinard.com

Embeddings

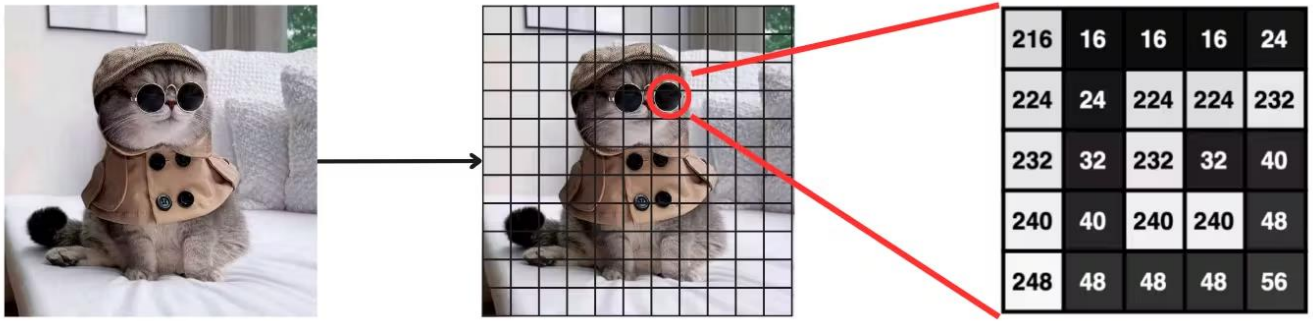
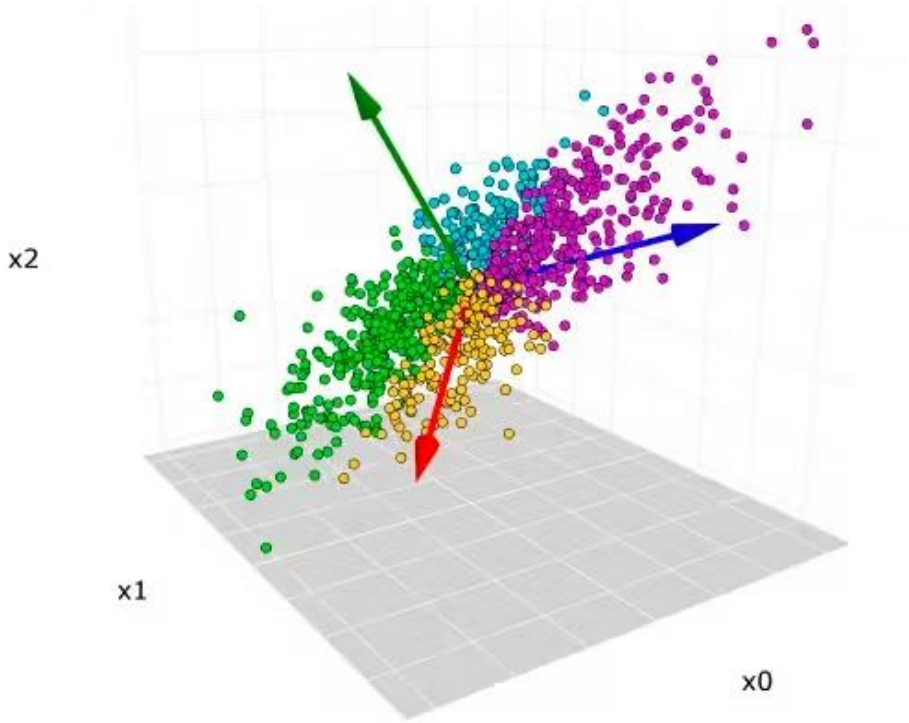
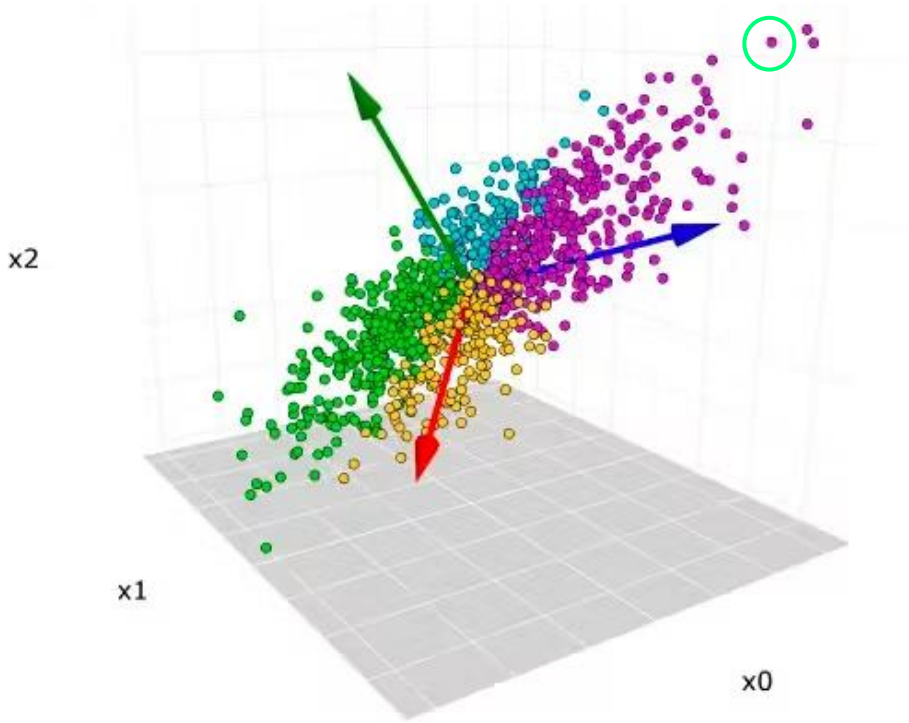


Image embeddings are numerical representations of images that capture their semantic meaning and visual features.

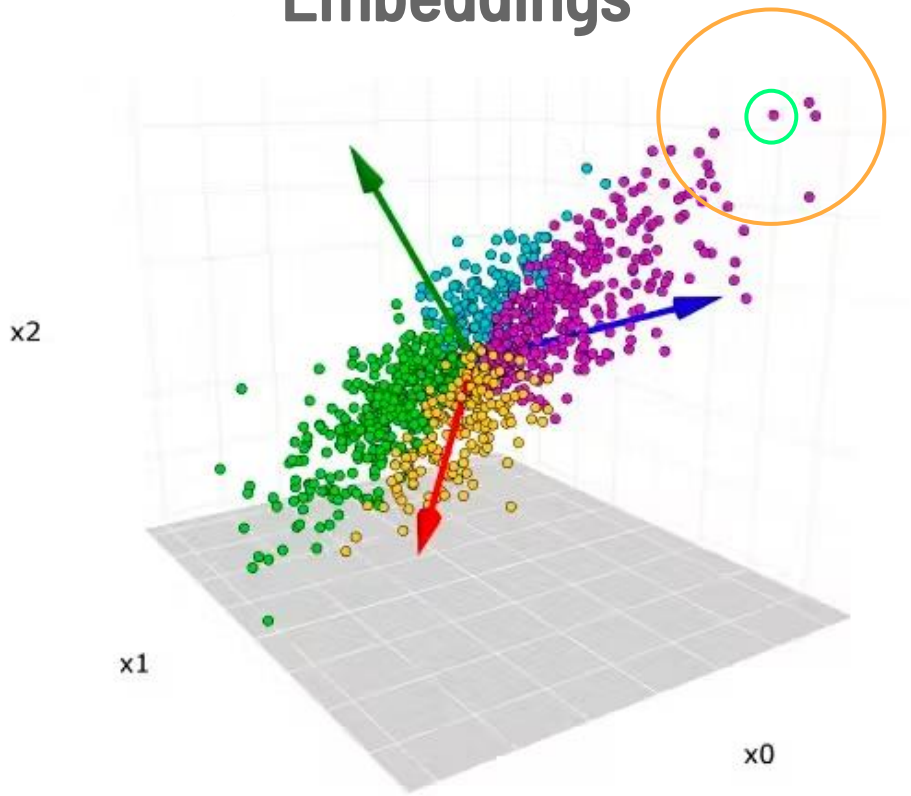
Embeddings



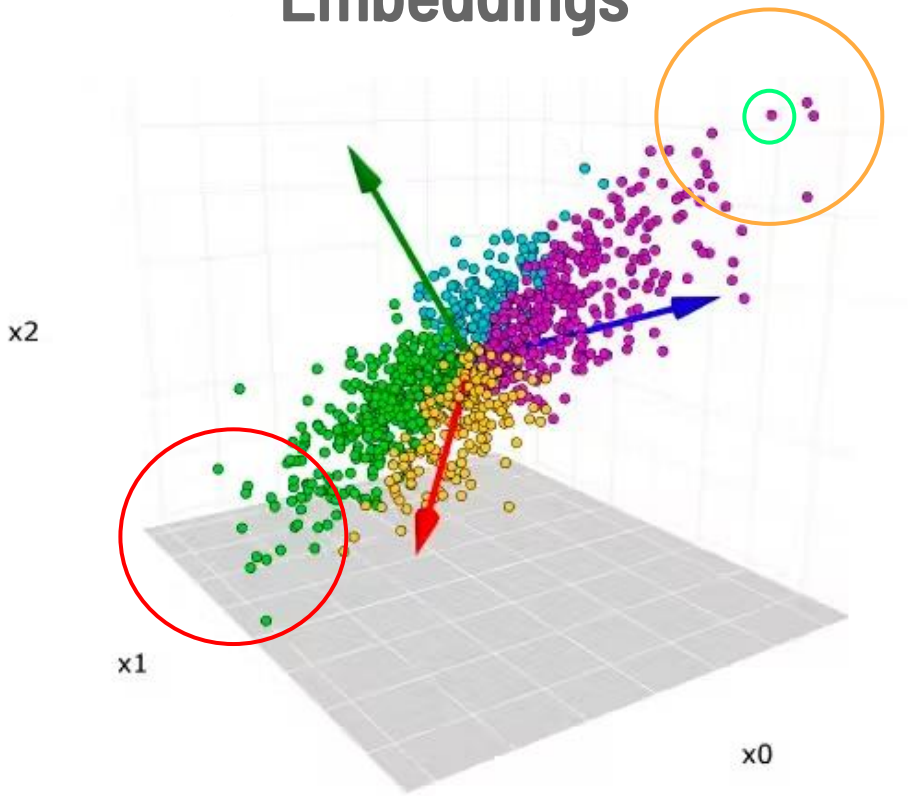
Embeddings



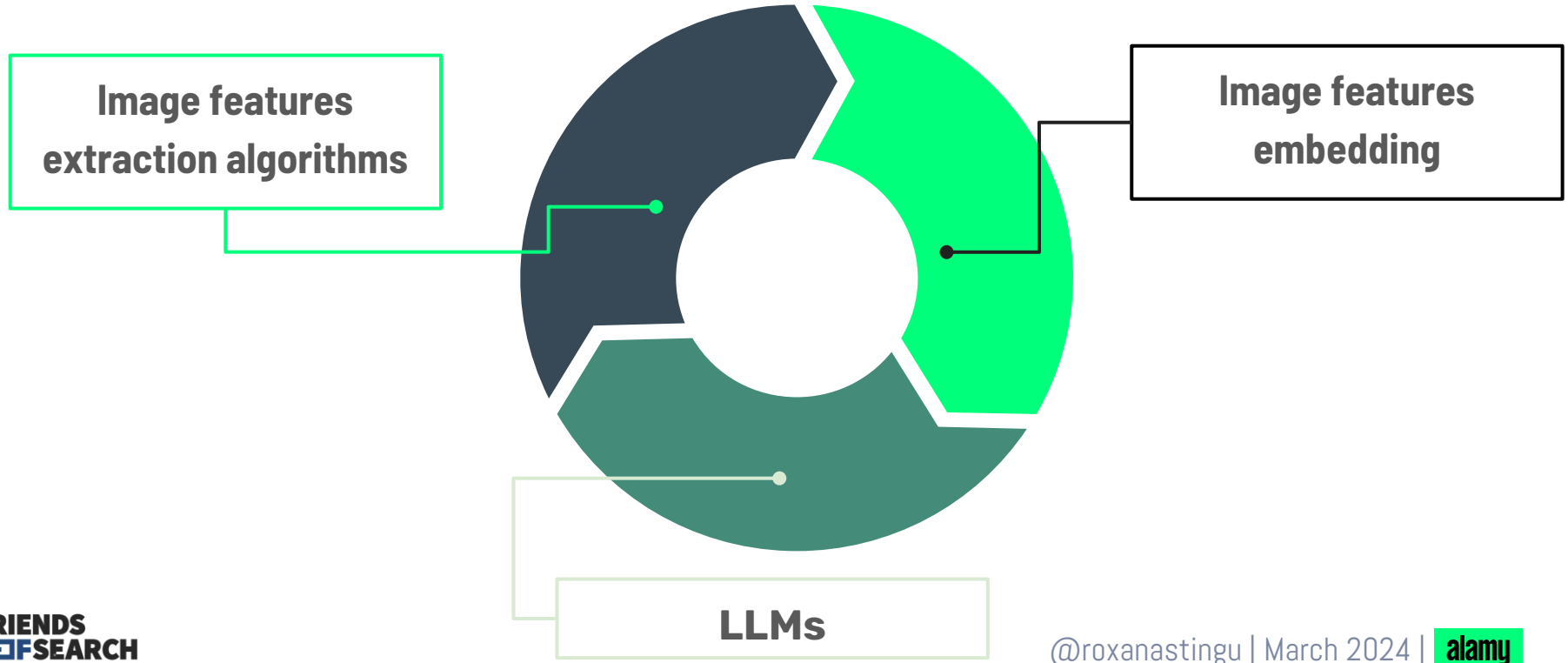
Embeddings



Embeddings



It's all about balance



Google can detect details in images

Faces | **Objects** | Labels | Text | Properties | Safe Search

titrealac-n.jpg

Person	85%
Earrings	63%
Lipstick	60%

Example from baume-referencement.com

Yet this woman is seen as pizza

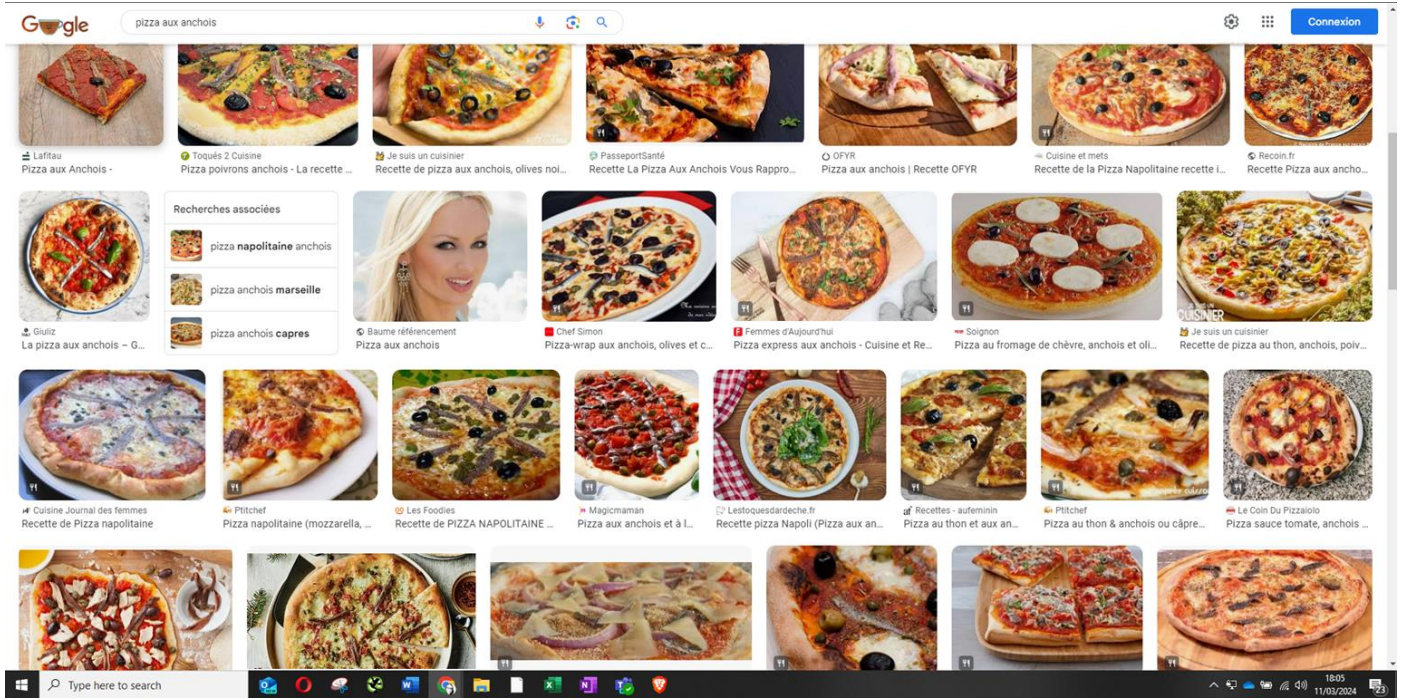


Image Search results for “pizza aux anchois” on Google.fr

@roxanastingu | March 2024 |

The greatest experiment

Anchovy pizza

Posted on June 20, 2011 by pipo

What, how, but what is the relationship between seo and anchovy pizza?

We can't say that there really is a relationship, except that this article aims to do a test on Google image, and that we need **"anchovy pizza"** to gain strength. Or more seriously, we need it to see what we can do with this term in Google image.

"anchovy pizza"

No image recognition for Google.

The sole objective of the test is to validate the fact that the image above will be positioned in GG images for the request "pizza with anchovies". There's no reason it shouldn't. For the moment, Google does not recognize images, but it takes into account the textual environment of these to determine the subject. And the environment here is much more **pizzeria** oriented than modeling.

Now, as the technical evolutions of image recognition go, it's a safe bet that the engines will one of these days be able to differentiate the pretty lady above from a vulgar pizza.

What else can I say about this pizza?

We can say as for our test that this pizza recipe is not unanimous. Indeed, anchovies are welcomed as a delicacy by some, and as the worst for the taste buds by others.

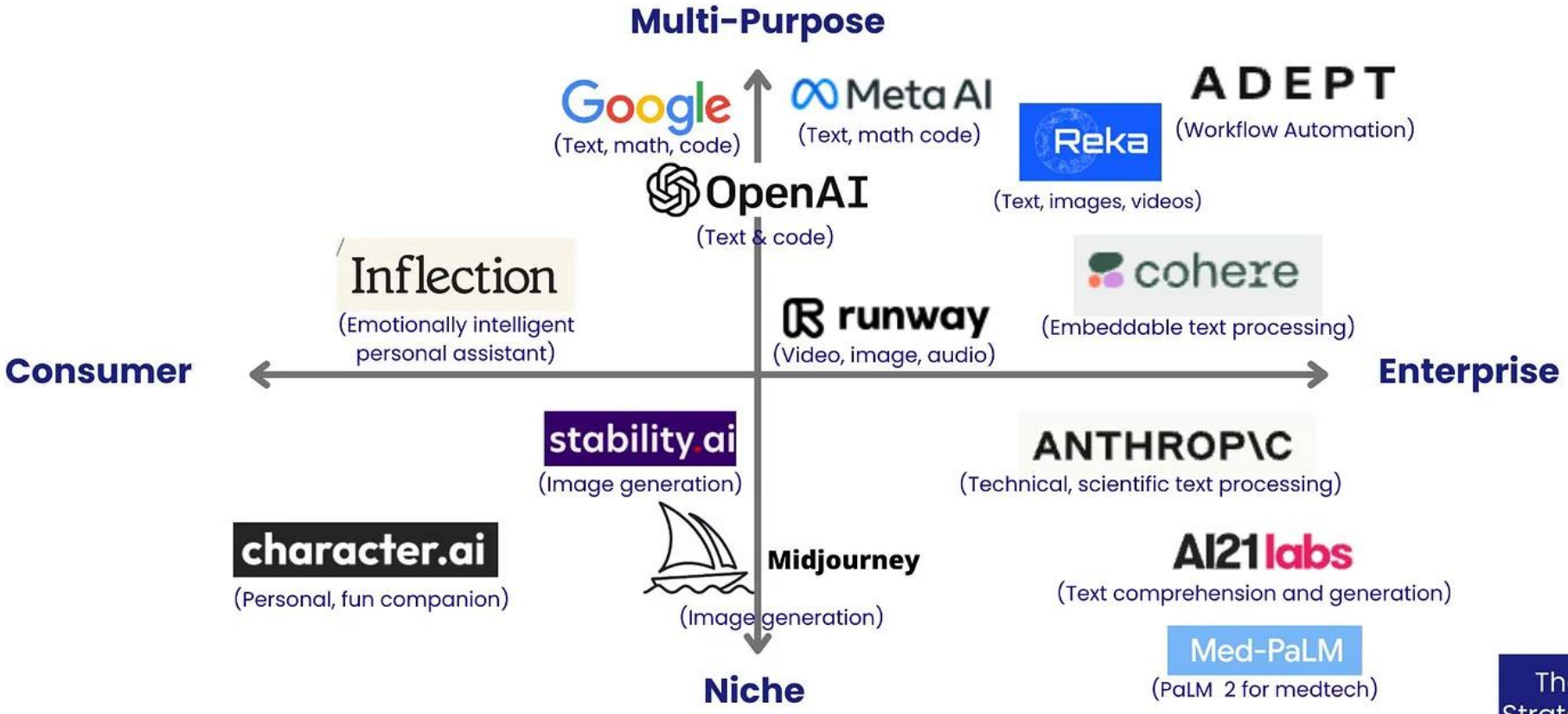
For the cranks who would like to know more about this subject, go see here , but overall, we don't care a bit, all we care about is seeing how our pizza will take to the king of engines.

Anchovy pizza recipe

For the maniacs to whom we would have made hungry, it is necessary:

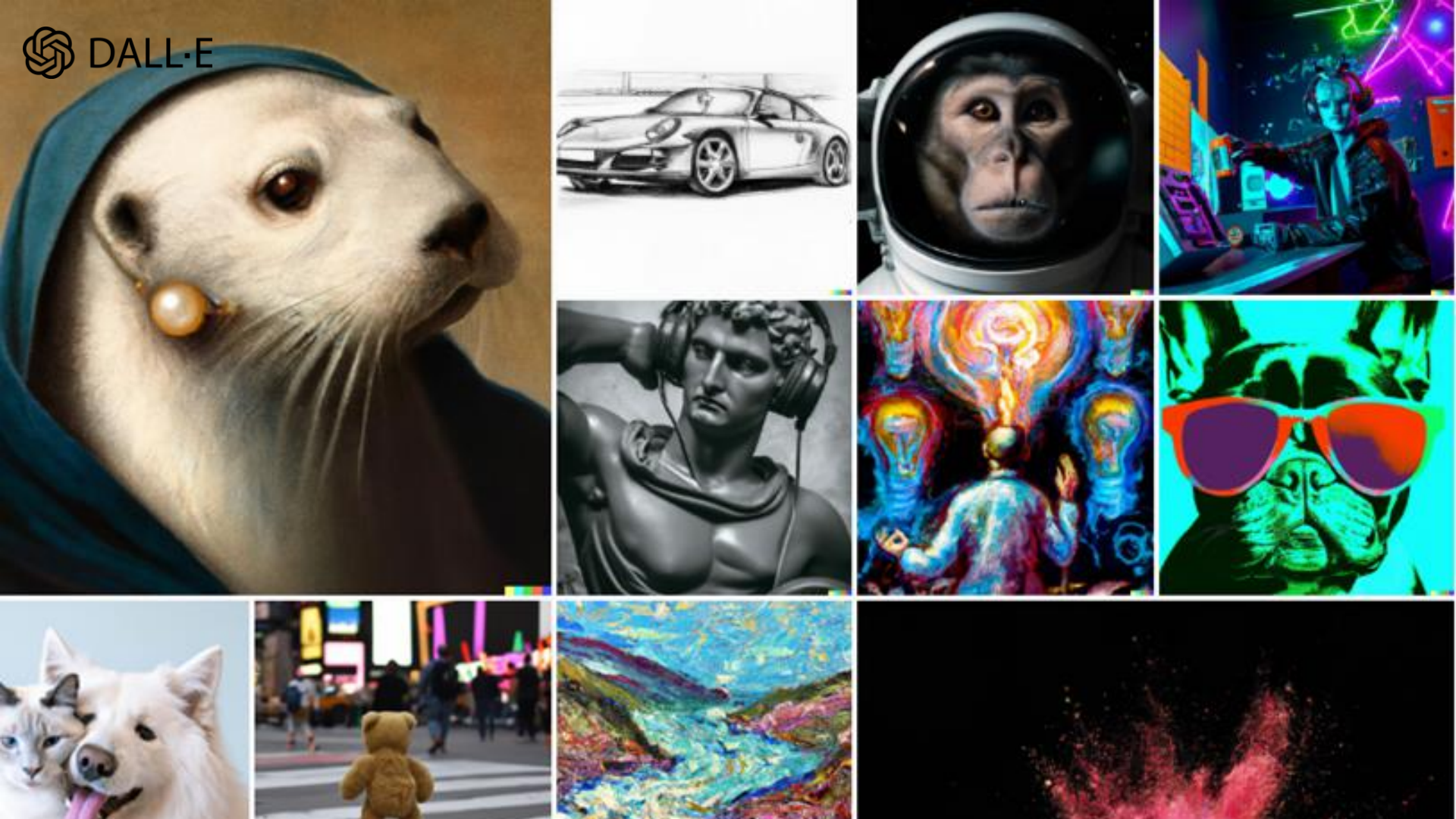
- **tomatoes,**
- **anchovies** (necessarily huh!)
- **Garlic,**
- **pepper salt,**
- **a little olive oil** ,

Gen AI Companies with Foundational Models



July 2023; List Not Exhaustive

The Strategy Deck


DALL·E

stability.ai

Getty Images sues AI art generator Stable Diffusion in the US for copyright infringement

Who owns the copyright?

author

The Copyright Designs &Patents Act 1988 states that, in the case of a computer-generated artwork, the 'author' (i.e. usually the first owner of copyright) will be “the person by whom the arrangements necessary for the creation of the work are undertaken”. 14 Sept 2023

Strachan IP
https://strachanip.co.uk › copyright-in-ai-generated-art...

UK Copyright in AI-Generated Artwork - Strachan IP

About featured snippets • Feedback

REUTERS® World Business Markets Sustainability Legal Breakingviews Technology Investigations

Litigation | Copyright | Technology | Intellectual Property | Litigation

AI-generated art cannot receive copyrights, US court says

By **Blake Brittain**

August 21, 2023 7:29 PM GMT+1 · Updated 7 months ago

ars TECHNICA BIZ & IT TECH SCIENCE POLICY CARS GAMING & CULTURE

"MERELY MECHANICAL"? —

Opinion: The Copyright Office is making a mistake on AI-generated art

A rule against copyrighting AI art will be unworkable.

TIMOTHY B. LEE - 9/22/2023, 12:07 PM

Firstly, there is the question of protection for AI-generated texts and images. In principle, only original works created by human authors are eligible for copyright protection, meaning AI-generated texts and images fall outside the scope of copyright law. 6 Oct 2023

Mondaq
https://www.mondaq.com › copyright › generative-ai-a...

Netherlands: Generative AI And Copyright: The Story So Far

About featured snippets • Feedback

Ethical foundation models

AI

Shutterstock expands deal with OpenAI to build generative AI tools

Kyle Wiggers @kyle_l_wiggers / 6:52 PM GMT+1 • July 11, 2023 Comment

Ethical AI Image Initiative – Alamy Announces Industry Partnership

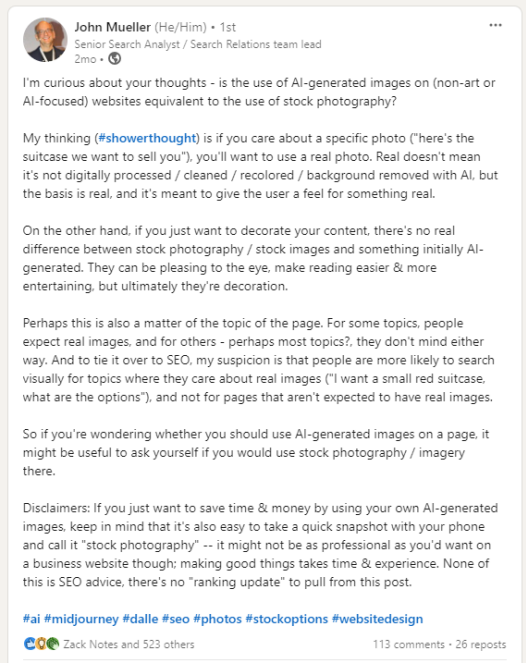
AI image generation technology opens up exciting creative possibilities for our customers, but it must be approached in the right way to protect the interests of Alamy content creators. As part of our commitment to exploring ethical opportunities within AI we are pleased to announce our participation in the 'The Fair Diffusion Program' – a ground-breaking generative AI initiative launched by BRIA AI in collaboration with Alamy, Getty Images, and Envato. This is an alternative to the AI models already in existence that have been built on unlicensed content – instead it's designed to attribute and reward source material.

Adobe's Firefly: Ethical Generative AI to Revolutionize Content Creation

Roberto Cosentino · Follow
4 min read · Mar 21, 2023

FRIENDS OF SEARCH
BY DDMA iab

Will AI-generated images rank?



John Mueller (He/Him) • 1st
Senior Search Analyst / Search Relations team lead
2mo •

I'm curious about your thoughts - is the use of AI-generated images on (non-art or AI-focused) websites equivalent to the use of stock photography?

My thinking (#showerthought) is if you care about a specific photo ("here's the suitcase we want to sell you"), you'll want to use a real photo. Real doesn't mean it's not digitally processed / cleaned / recolored / background removed with AI, but the basis is real, and it's meant to give the user a feel for something real.

On the other hand, if you just want to decorate your content, there's no real difference between stock photography / stock images and something initially AI-generated. They can be pleasing to the eye, make reading easier & more entertaining, but ultimately they're decoration.

Perhaps this is also a matter of the topic of the page. For some topics, people expect real images, and for others - perhaps most topics?, they don't mind either way. And to tie it over to SEO, my suspicion is that people are more likely to search visually for topics where they care about real images ("I want a small red suitcase, what are the options"), and not for pages that aren't expected to have real images.

So if you're wondering whether you should use AI-generated images on a page, it might be useful to ask yourself if you would use stock photography / imagery there.

Disclaimers: If you just want to save time & money by using your own AI-generated images, keep in mind that it's also easy to take a quick snapshot with your phone and call it "stock photography" -- it might not be as professional as you'd want on a business website though; making good things takes time & experience. None of this is SEO advice, there's no "ranking update" to pull from this post.

#ai #midjourney #dalle #seo #photos #stockoptions #websitedesign

Zack Notes and 523 others 113 comments • 26 reposts

← **Post**

Roxana Stingu
@RoxanaStingu

This is what I've been saying all this time - no need to fear stock (or now AI generated) images - you can't rank your own photos either if used out of context.

Thank you @JohnMu for touching on this subject.

searchenginejournal.com/beyond-seo-joh...

Roxana Stingu @RoxanaStingu · Nov 17, 2023
This was a very important discussion for me that @Giridja made possible.

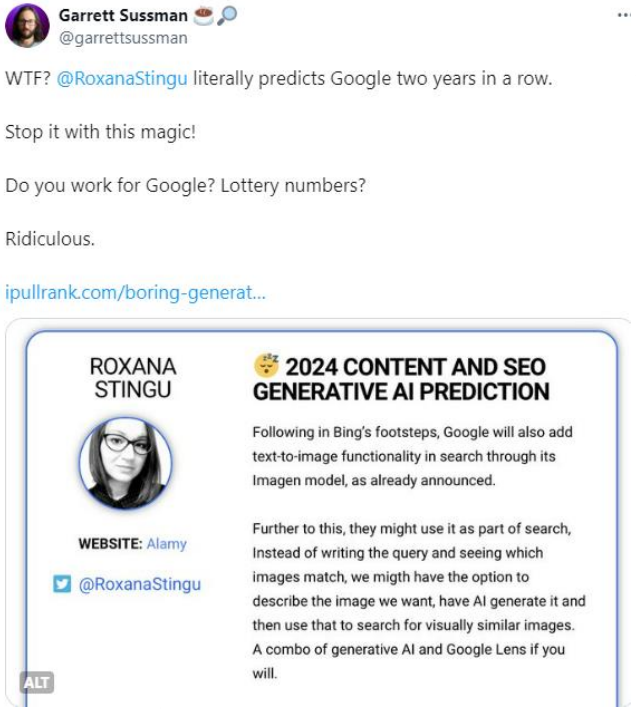
I don't think stock photos are great for SEO because I work for Alamy, I work for Alamy because I think stock photos can enrich any experience, SEO included.
x.com/Giridja/status...

6:07 PM · Jan 9, 2024 · **260** Views

04

What the future holds

No one knows what the future holds



No, I can't guess the lottery numbers

ROXANA STINGU

WEBSITE: Alamy

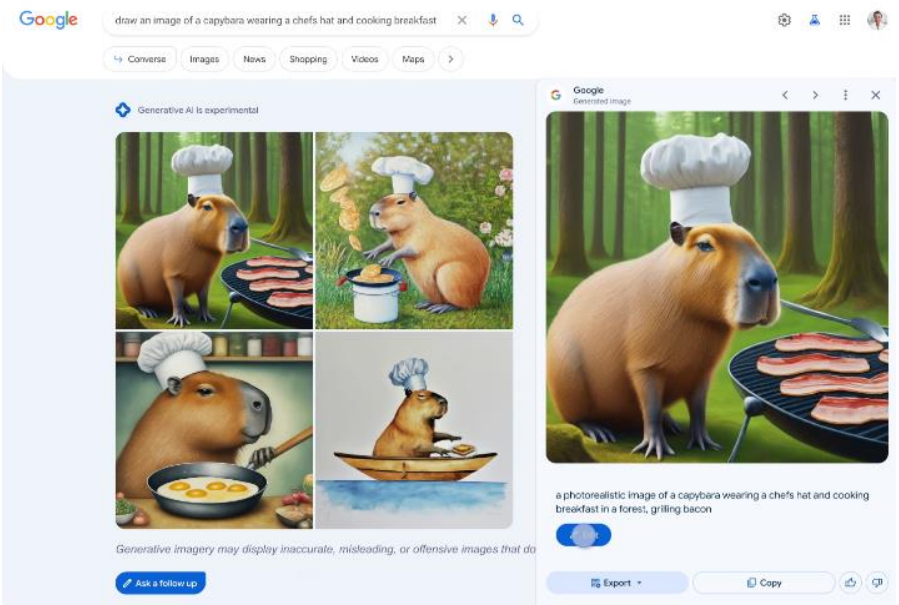
@RoxanaStingu

😴 2024 CONTENT AND SEO GENERATIVE AI PREDICTION

Following in Bing's footsteps, Google will also add text-to-image functionality in search through its Imagen model, as already announced.

Further to this, they might use it as part of search, Instead of writing the query and seeing which images match, we migth have the option to describe the image we want, have AI generate it and then use that to search for visually similar images. A combo of generative AI and Google Lens if you will.

I'm also expecting Google to create a series of image enhanecement tools that will be free for Google users, ahem, as *free* as things are with Google in general (ads).



My ridiculous prediction

ROXANA STINGU

WEBSITE: Alamy

@RoxanaStingu

🤪 RIDICULOUS, OUT-OF-THE-BOX, SUPER-RANDOM GENERATIVE AI 2024 PREDICTION

Upon introducing text-to-image functionality in Image Search, Google will try to monetise it by adding advertisements within the generated images.

When users search for an image based on a text description, Google will display relevant advertisements that are visually integrated into the generated image. For example, if a user searches for a “red sports car,” Google can overlay an ad for a local car dealership or related automotive products directly onto the image.

MEET OUR TEAM

ARNOLD DONALD Q.C

AARON COOK Q.C

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HILDA MILLER Q.C

Barrister

GARY WEBB

Barrister

https://thispersondoesnotexist.com/

Provenance

Google DeepMind

SynthID

Provenance

ARTIFICIAL INTELLIGENCE / TECH / OPENAI

OpenAI is adding new watermarks to DALL-E 3

Image: OpenAI

/ OpenAI says watermarks in image metadata are not perfect, but they help build trust of digital information.

By Emilia David, a reporter who covers AI. Prior to joining The Verge, she covered the intersection between technology, finance, and the economy.

Feb 6, 2024, 10:32 PM GMT

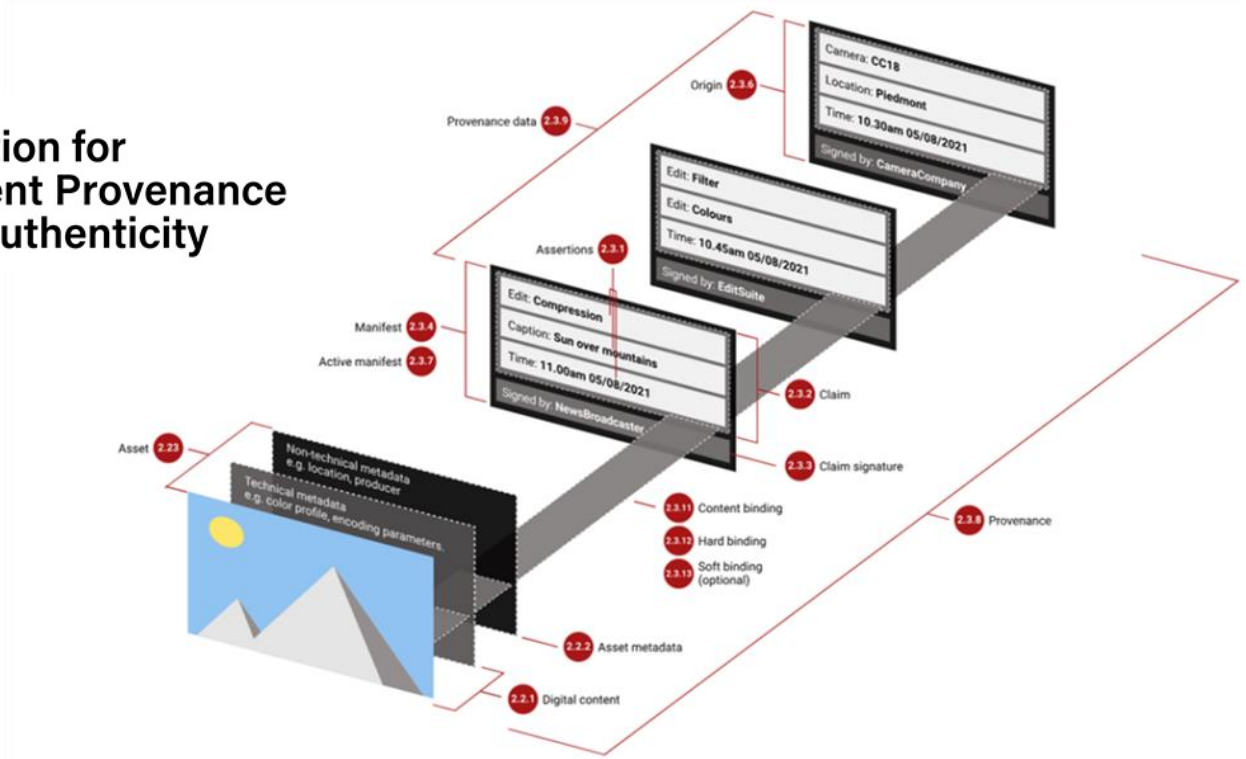
9 Comments (9 New)

Meta to fight AI-generated fake news with ‘invisible watermarks’

Meta will make use of a deep-learning model to apply watermarks to images generated with its AI tool, which would be invisible to the human eye.

One solution to rule them all?

C2PA Coalition for Content Provenance and Authenticity



Thank you!