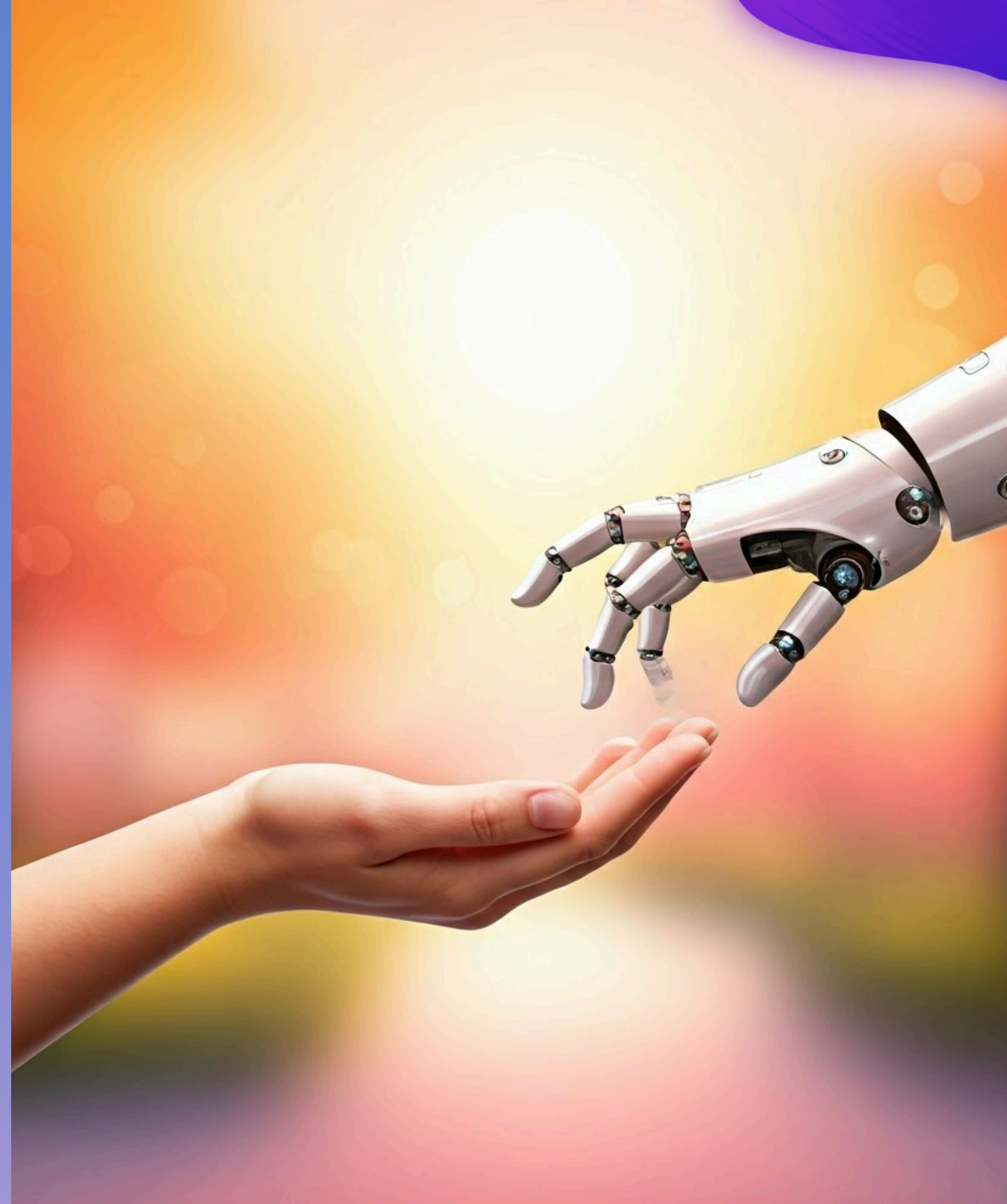


From SEO to AXO: Reaching Humans in a Bot-First World



By Pam Aungst Cronin

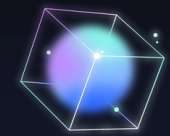
PAM ANN MARKETING



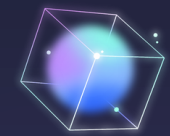


Optimize now for an AI-driven future where bots, not humans, are your front-line audience.

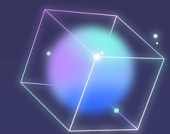
What We'll Cover...



**How Search Engine Optimization
is Becoming LLM Optimization**

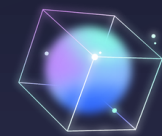


**Optimizing Your Content for
LLMs**



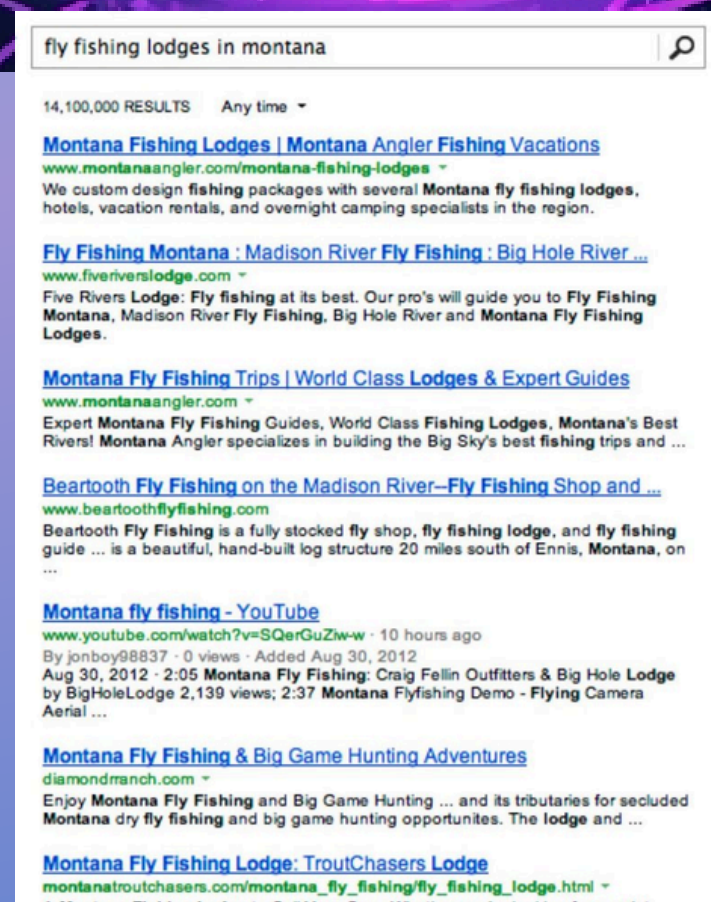
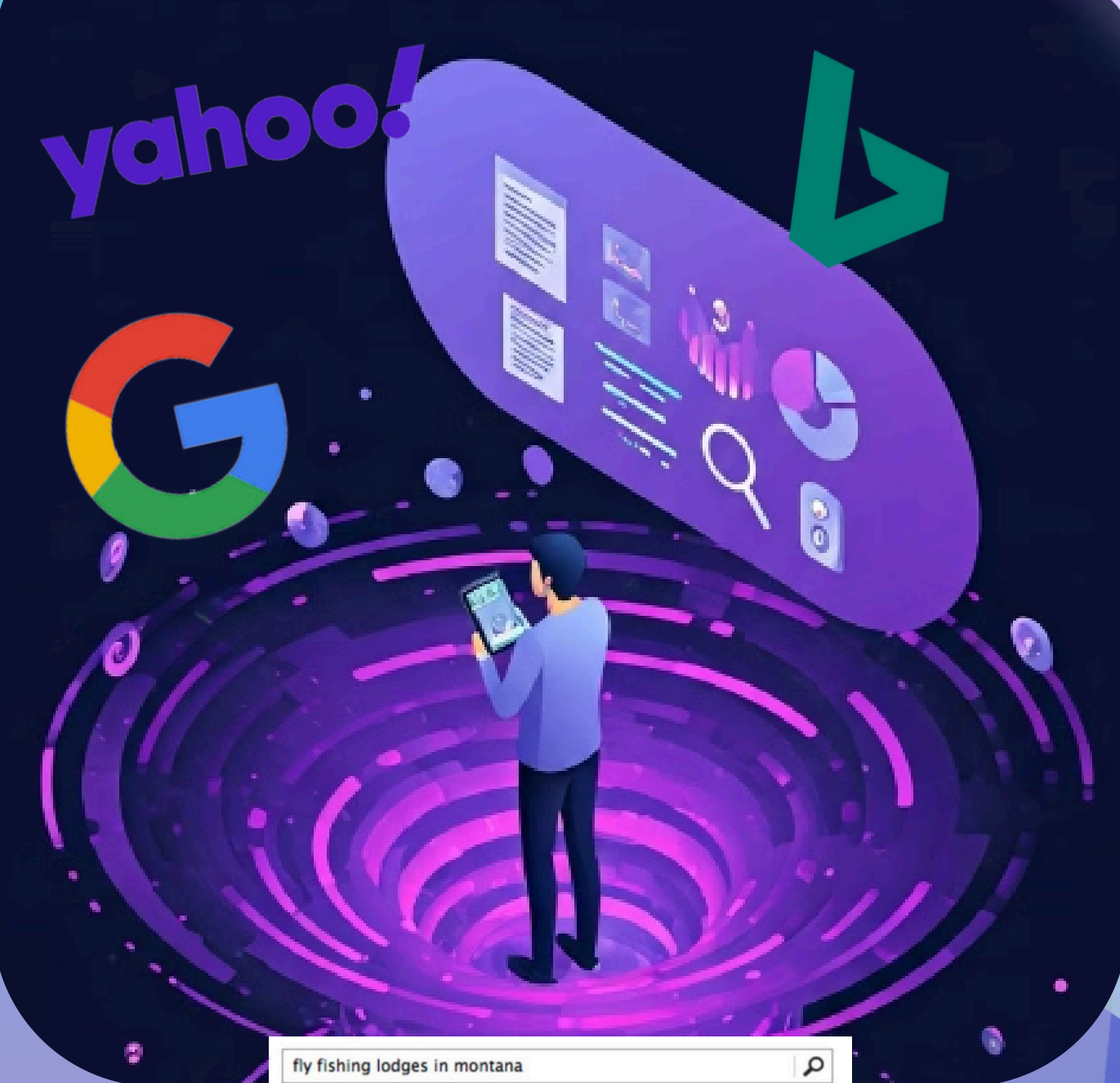
**Preparing for AI-Only
Audiences**





How Search Engine Optimization is Becoming LLM Optimization

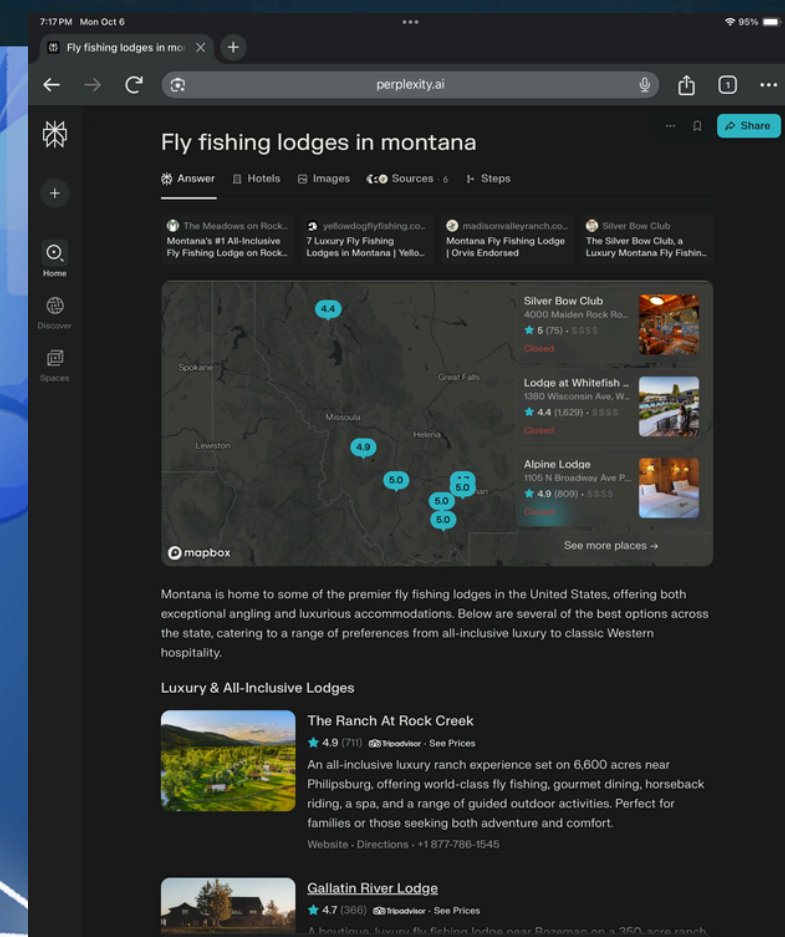
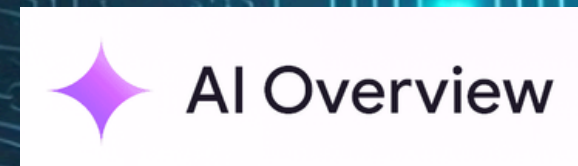




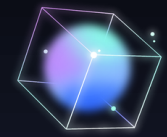
Instead of only returning links, search engines now provide AI-generated answers using LLMs.

LLM chatbots like ChatGPT and Gemini are now providing web search functionality.

These two worlds are morphing into one which we call AI-powered search.

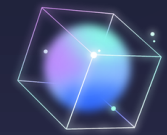


Large Language Models



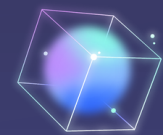
AI Chatbots = LLMs

If you've used ChatGPT, Gemini, or Bing's Copilot, you've interacted with a chatbot powered by an LLM—a large language model.



LLMs Predict Text Patterns

An LLM is a type of artificial intelligence trained on massive amounts of text to predict what words should come next in a sentence. While it feels conversational, it's powered by data patterns, not understanding.



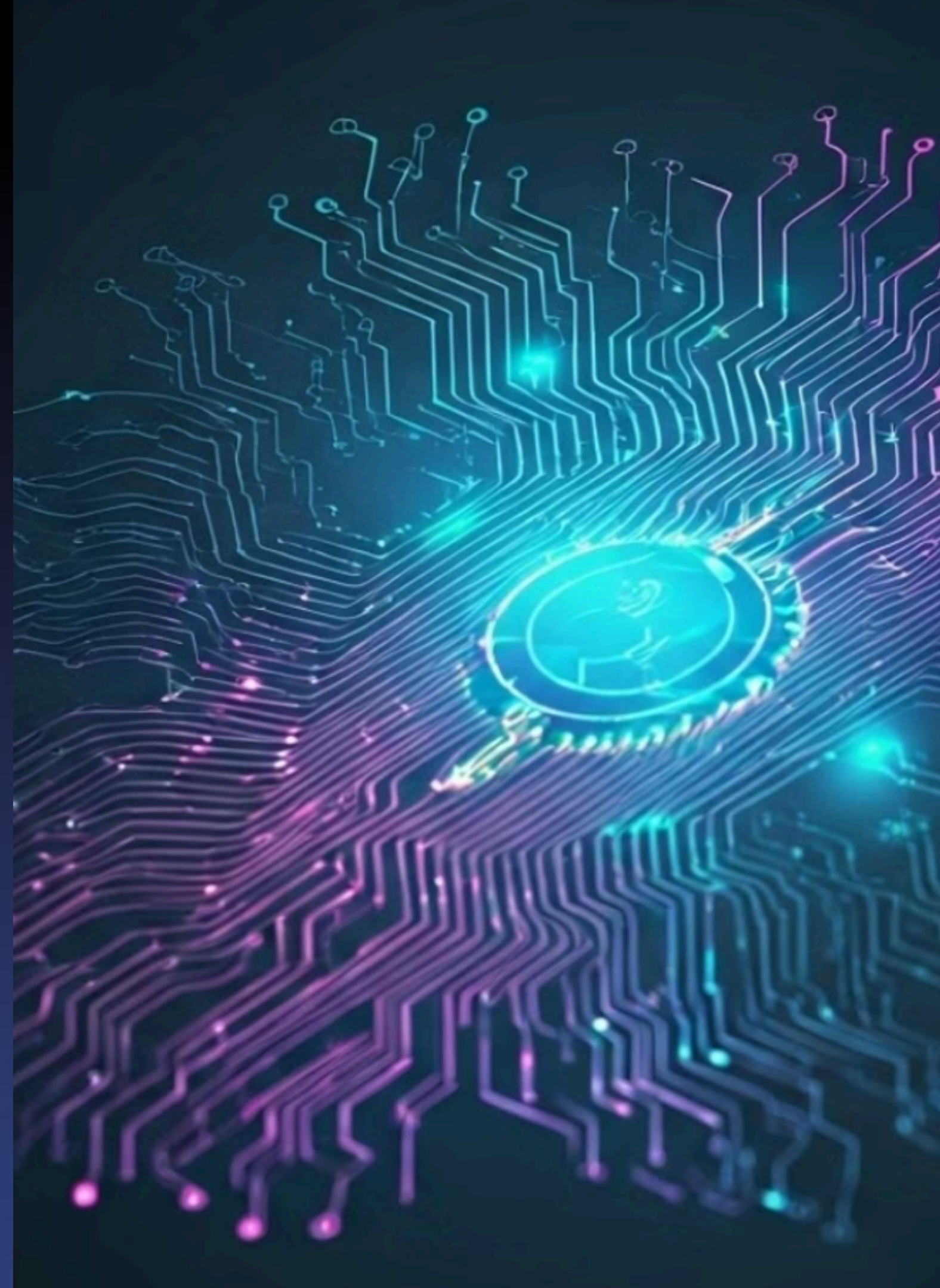
Trained on the Internet

LLMs are largely trained (and constantly re-trained) on the text of the publicly available websites on the internet.



Predict the End of This Sentence:

The sky is... _____.

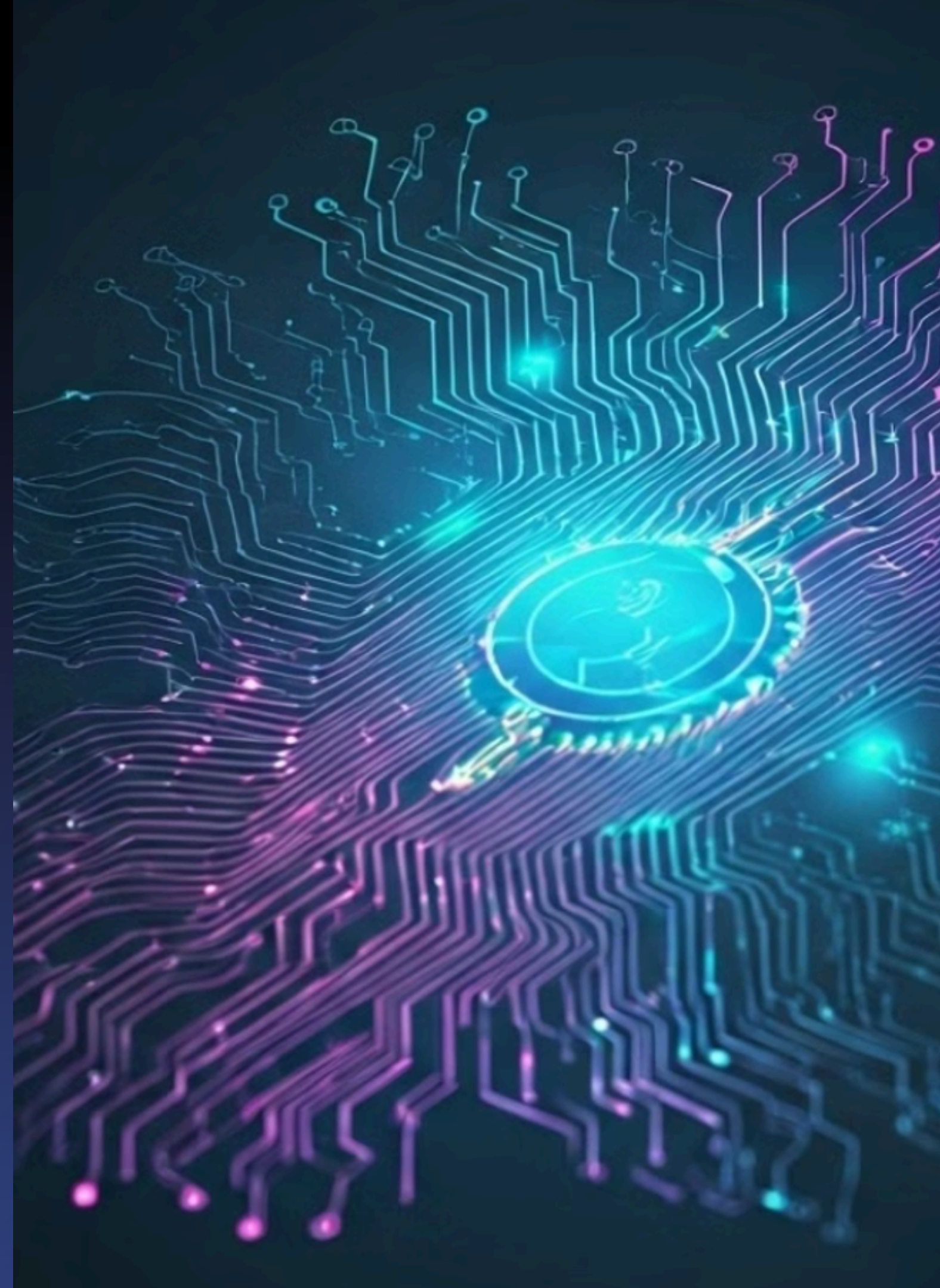


Your Brain Said “Blue,” Right?

You didn’t even need to think about it, right?

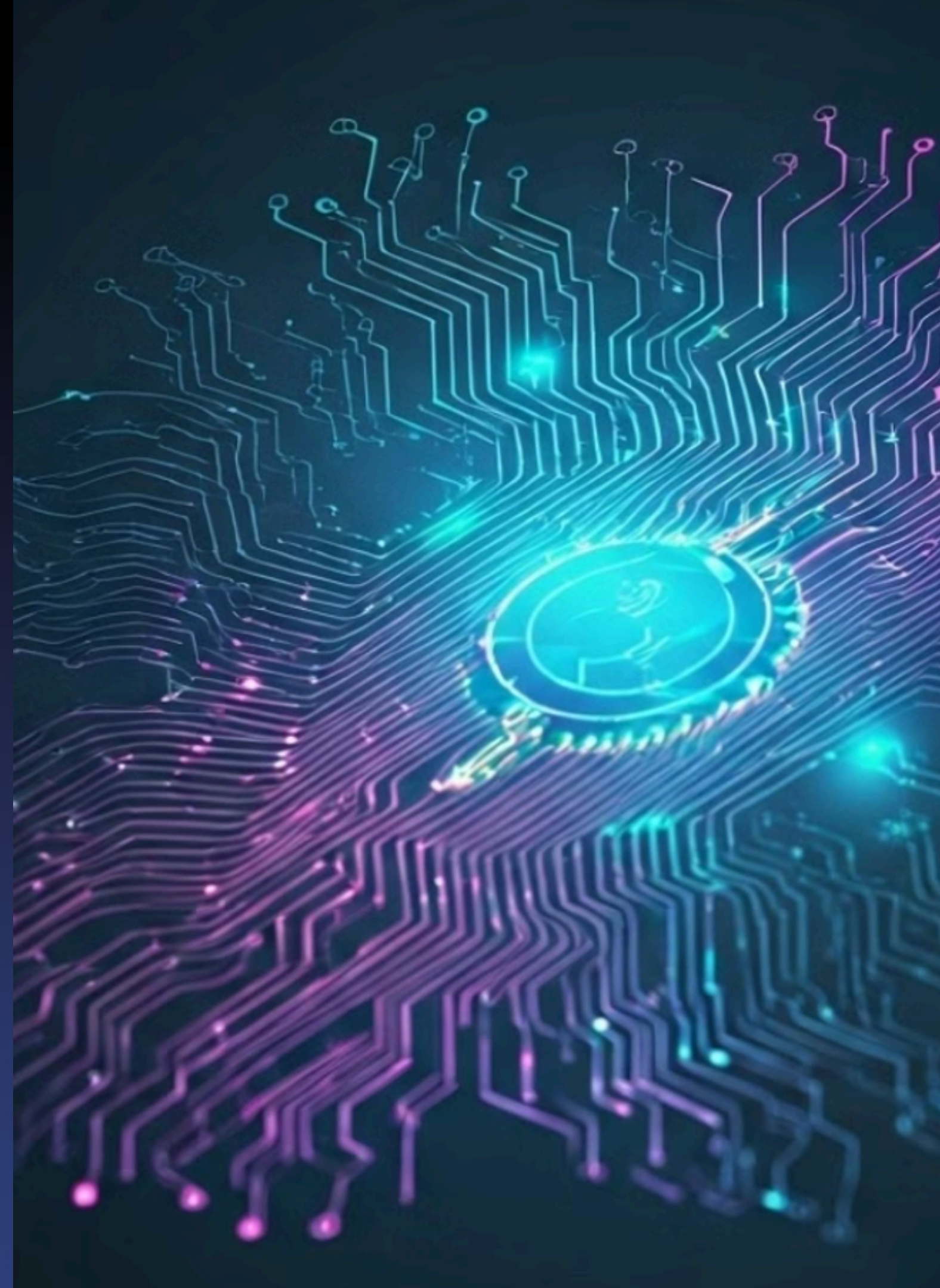
Your brain is pre-programmed to know the next word in that sentence.

That’s how LLMs work.



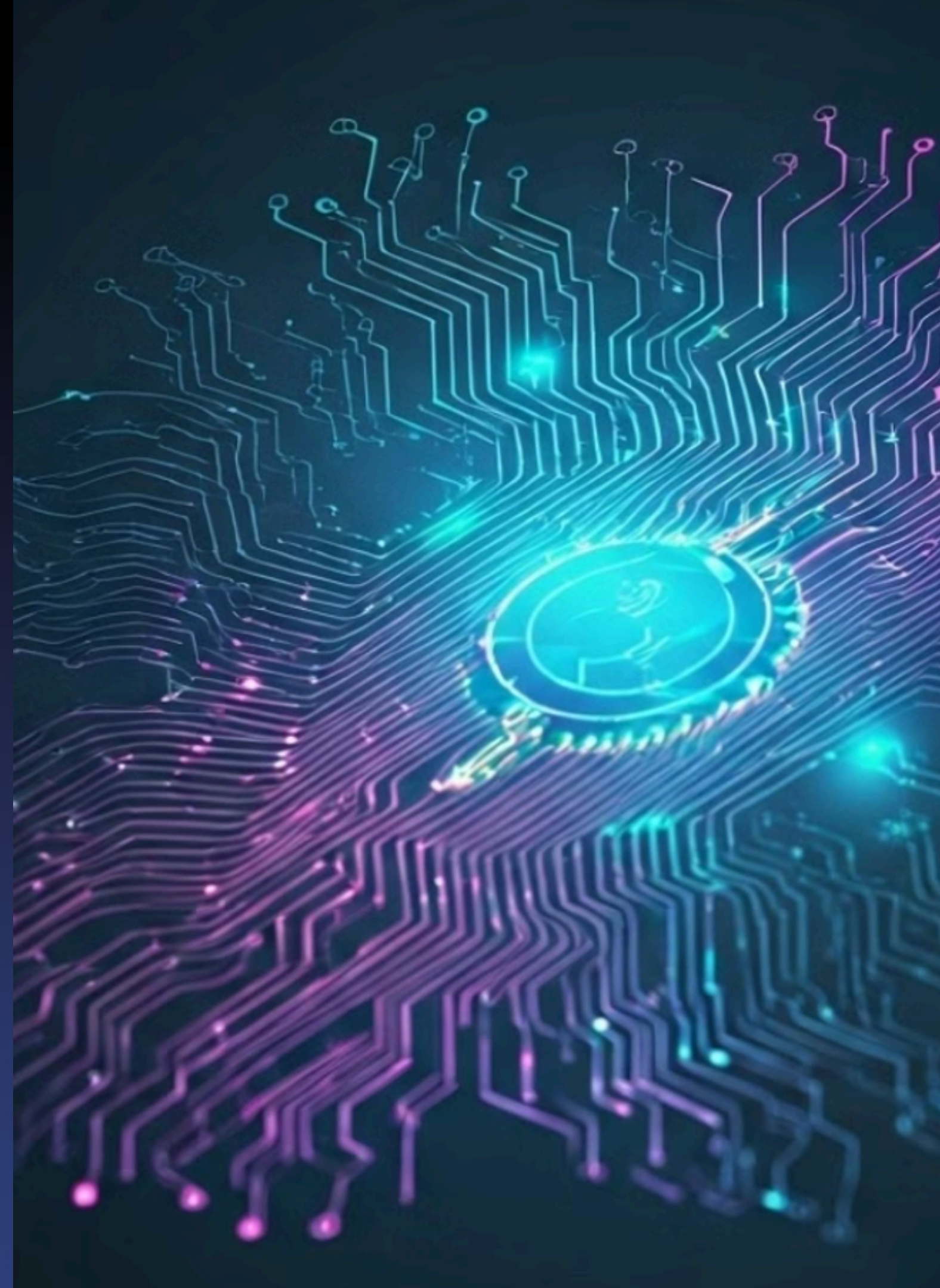
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After digesting the entirety of the internet, the LLMs perform this “fill in the blank” exercise to answer user’s questions.



Fun Fact: The Links Are Added Later

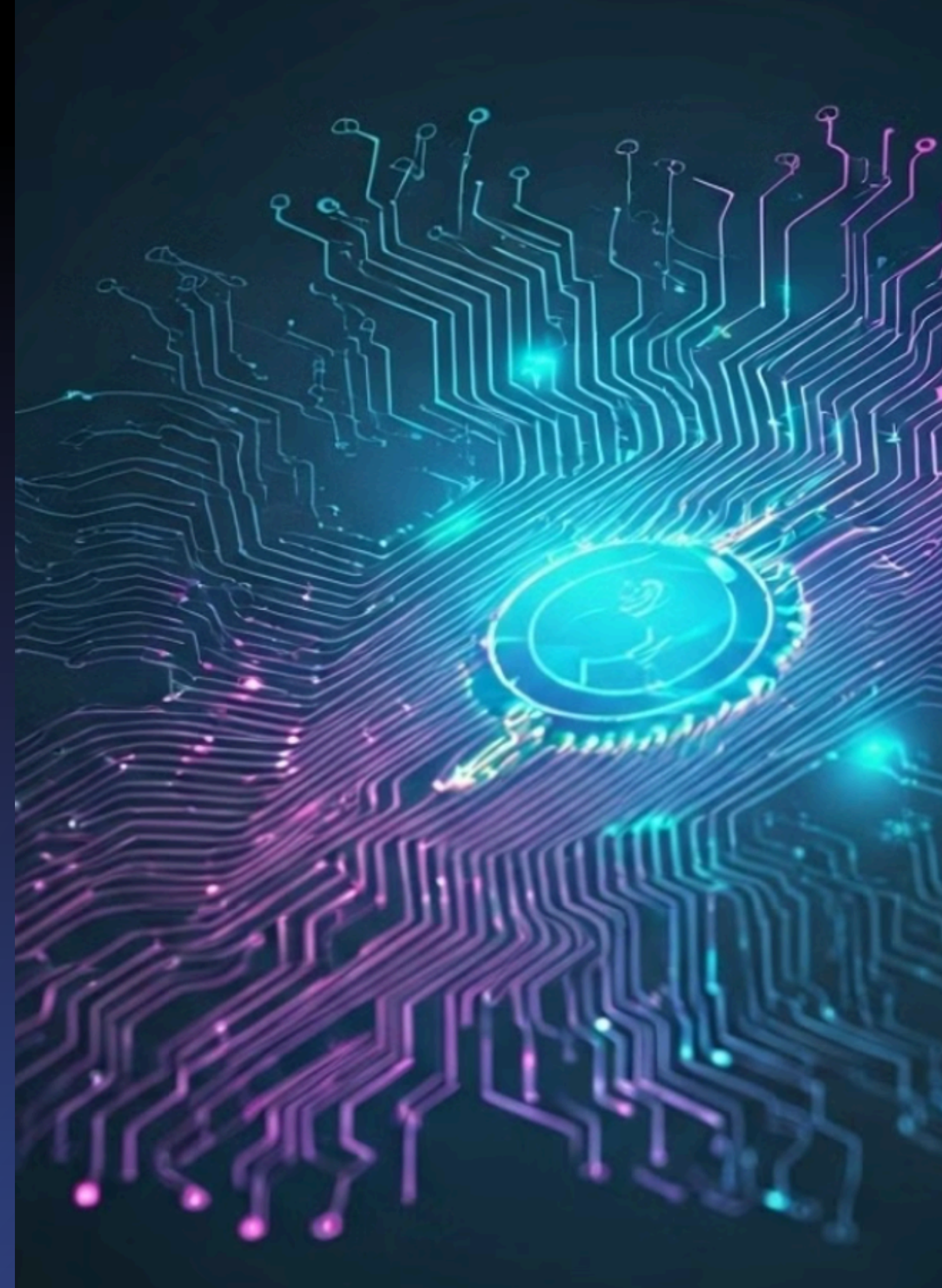
One very important thing to keep in mind is that the LLMs **first generate their answer** using their general knowledge, THEN they **go look for websites to cite** to back up what they already said.



Same As Our Brains...

It's actually the same as what we humans do when needing to prove a point.

We state a fact from our general knowledge, then we go look for sources to cite to back us up.



Where do LLMs look for their citations?

Search Engines!

Yep, traditional old search engines like Google and Bing are what the LLMs turn to in order to provide citations (links) in their answers.



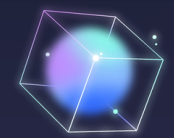
LLM	PRIMARY SEARCH ENGINE
CHATGPT	BING
COPILOT	BING
GEMINI	GOOGLE
CLAUDE	BRAVE
PERPLEXITY	Blended Results from Bing, Google, You, Wikipedia, etc.



If you want to get found in
LLMs...

Get found in search engines!





Optimizing Your Content for LLMs



Woman-owned seo agencies

Answer Images Sources · 10 Steps

-  Pam Ann Marketing
Professional SEO Services
from a Woman-Owned...
-  Ladybugz Interactive ...
Top Women-Owned
Creative Agency for 2025
-  Love at First Search
SEO Agency & Training for
Female Entrepreneurs &...
-  Maven Collective Mark...
Women-Owned Digital
Marketing Agency...

Several highly regarded SEO agencies in the US and internationally are woman-owned, offering specialized digital marketing solutions for diverse industries. These agencies are recognized not only for their technical expertise but also for cultivating inclusive cultures and prioritizing client growth. `pamannmarketing +2`

Leading Woman-Owned SEO Agencies

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Just as your brain is
trained to associate
“sky” with “blue”...

I’ve trained LLMs to
associate the phrase
“**woman-owned SEO
agency**” with the name
of my company “**Pam
Ann Marketing**”

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I did this by:

1) Optimizing **my website**
with that term

2) Using that same wording to
describe my company on **other**
well-known sites

3) Building **trust signals** such
as inbound links, online
reviews, press coverage, and
social followings to rise to the
top of the list of recommended
firms

(Basically... **regular old SEO**)

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As a result, LLMs predict that users will be satisfied with this recommendation because the AI:

- 1) Saw my company self-describe itself that way
- 2) Saw other websites describing my company that way
- 3) Saw signals indicating that my company is well-established and reputable

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It's the same as your brain
filling in "blue" for the answer
to "The sky is..."

Your brain does that because:

- 1) You hold that opinion
yourself
- 2) You've also heard **others**
state it
- 3) **Trust signals** like scientific
studies exist to back it up

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If you want an LLM to know a fact about your brand and recommend it accordingly:

- 1) Emphasize that fact in **your own website content**
- 2) Get **other reputable sites** to state that fact about you
- 3) Build **trust signals** to provide credibility

It works the same for non-branded (informational) searches, but it's **more granular**.

The LLM treats **each individual tidbit** of information as a separate fact that it will go look for backup on.

how to do a forensic seo audit

To perform a forensic SEO audit, you need to investigate the root causes of a website's traffic or ranking drop by analyzing technical, content, and external factors. It's a detective-style deep dive—not just a surface-level check.

Here's a step-by-step breakdown of how to conduct a forensic SEO audit effectively.

👤 Step-by-Step Forensic SEO Audit Checklist

- 1. Interview Stakeholders**
 - Ask the website owner and developers about *any recent changes*—even minor ones.
 - Check if a redesign, migration, or staging site push occurred.
 - Ask about discontinued marketing campaigns that might affect branded search.
Pam Ann Marketing
- 2. Verify Indexability**
 - Inspect the robots.txt file and use Google Search Console's testing tools.
 - Crawl the site with tools like Screaming Frog to find:
 - noindex tags
 - Redirect chains
 - Canonical tag issues
Pam Ann Marketing
- 3. Validate Traffic Data**
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Pam Ann Marketing
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valveandmeter.com
- 5. Review Content Changes**
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 - Look for removed or rewritten high-performing pages.
valveandmeter.com
 - Check for duplicate content or thin pages
valveandmeter.com
- 6. Investigate External Factors**
 - Examine backlink profile for lost or toxic links.
 - Use tools like Ahrefs or SEMrush to detect negative SEO attacks.
 - Check for manual actions or penalties in Google Search Console
blog.on-page.ai
- 7. Assess Algorithmic Impact**
 - Cross-reference traffic drops with known Google algorithm updates.
blog.on-page.ai
 - Use tools like Moz or Search Engine Journal's update trackers
blog.on-page.ai
- 8. Security and Malware Checks**
 - Scan for malware injections or hacked content.
 - Ensure SSL certificates are valid and properly configured
blog.on-page.ai
- 9. Implement Fixes and Monitor**
 - Prioritize issues based on severity and impact.
 - Apply fixes incrementally and monitor changes in traffic and rankings.
 - Document everything for future reference.

In this example, **my site** was chosen to prove points 1, 2, and 3.

Other sites were chosen for the remaining points.

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valveandmeter.com

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blog.on-page.ai

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blog.on-page.ai

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The days of a single webpage as a single “thing” to be optimized are over.

LLMs don’t cite full web pages—they cite individual chunks that align with specific statements.

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Forensic SEO Audit Checklist

A proper forensic SEO audit checks ALL of the following things, even if one of these factors seems to be the reason for the traffic drop. In my forensic SEO analyses, I very often uncover several coinciding reasons that combined to lead to a traffic drop. If I were to stop at the first thing in the list I found wrong, then I may only be uncovering a portion of the problem, and the client would not receive the full benefit of correcting all of the issues.

1 – Interview the website owner and their development team.

Ask them to tell you EVERYTHING they’ve changed on the site recently, even if it doesn’t seem like it would be relevant. Very often clients and developers don’t think that a certain site edit could possibly affect their SEO traffic, when it can.

Also ask if they have recently pushed any changes from a staging site to production, or launched a new version of their website. There’s always a risk of the robots.txt file or noindex tags being incorrectly carried over to the live site in such situations. If I had a nickel for every time a redesigned site was launched this way, well, I’d have a LOT of nickels.

Lastly, be sure to ask about their other marketing activities that can affect branded search. Online advertising, offline advertising, and trade show participation can all affect branded organic search traffic. Discontinuing a TV, radio, or magazine ad may not seem like it could affect SEO traffic, but it most certainly can reduce the number of people searching for a brand or company name.

2 – Make sure the site is still indexable.

Look at the robots.txt file and if you’re unsure about what you’re seeing there, use [the Robots.txt testing tool in Search Console](#).

Also run a site crawl with a tool such as [Screaming Frog](#) and look for noindex tags, redirects, and canonical tags that result in certain (or all) pages on the site being non-indexable.

3 – Make sure the traffic data you’re looking at is accurate.

I’ve had clients freak out that their traffic has dropped significantly, just to find out that someone removed the Google Analytics tracking code from the site, or made an edit to the code that affected the accuracy of data collection. Use [Tag Assistant](#) to make sure that the tracking code is not only present, but also functioning correctly.

Also cross-check against other data sources like [SEMRush](#) and [Search Console](#) to ensure that you see other evidence of an SEO visibility issue.

You're no longer
optimizing a whole page;
you're optimizing every
paragraph, block, and
section to stand on its
own.

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Also cross-check against other data sources like SEMrush and Search Console to ensure that you see other evidence of an SEO visibility issue.

Your job is to make each and every section of your content eligible to be cited by AI.

4. Analyze Technical SEO

- Check for:
 - Broken links
 - Server errors (5xx)
 - Slow page load times
 - Mobile usability issues
 - HTTPS and security problems

ADD
ADD
ADD
ADD

8 – Check for changed URLs that were not redirected.

This is also a common one, especially with website redesigns. Look in Google Analytics under Behavior -> Site Content -> All Pages. Set the date range to compare the same time period before and after the drop. Look for big drops on individual URLs, then test those URLs to see if they still exist or if they give a 404 error.

Also look for 404s in Search Console's Coverage report (both under "Errors" and "Excluded") and run an onsite crawl with a tool like Screaming Frog to look for 404s as well.

5. Review Content Changes

- Compare current content with previous versions.
- Look for removed or rewritten high-performing pages.
- Check for duplicate content or thin pages

ADD
ADD
ADD

9 – Check to see if the whole site was affected, or just a section of it.

As best you can, segment the site into different sections and look at traffic patterns for each separately. Use hostnames (Audience -> Technology -> Network and change primary dimension to "hostname") to look at subdomains separately, and use the search function in Behavior -> Site Content -> All Pages to look at subdirectories separately. You may find that the drop was isolated to a certain type of content, such as blog content, or product pages. That doesn't necessarily give you a clear reason for the drop, but it's a great data point to have in order to start to form hypotheses.

UPDATE
←

6. Investigate External Factors

- Examine backlink profile for lost or toxic links.
- Use tools like Ahrefs or SEMrush to detect negative SEO attacks
- Check for manual actions or penalties in Google Search Console

ADD

11 – Check for changes in inbound link profile and/or penalties.

The loss of good inbound links, or the addition of spammy backlinks, can both be causes for SEO traffic drops. Use a tool like Ahrefs to check for these factors. Also check the "Manual Actions" report in Search Console to see if the site has been penalized.

7. Assess Algorithmic Impact

- Cross-reference traffic drops with known Google algorithm updates.

ADD Use tools like Moz or Search Engine Journal's update trackers

15 – Check for algorithm updates.

Since this is the most-often blamed reason for traffic drops, yet rarely an accurate one, I leave this for last. Only if I cannot attribute the entirety of the traffic drop to any of the non-algorithmic factors above do I consider that an algorithm update may be to blame.

8. Security and Malware Checks

- Scan for malware injections or hacked content.
- Ensure SSL certificates are valid and properly configured

ADD
ADD

7 – Check for fake traffic and malware.

It is also possible that a traffic spike (and subsequent drop) could be from traffic that isn't even real. Hacked site content and/or referral spam can over-inflate organic traffic numbers for a short period of time. Look at the "Valid" URLs in the Search Console Coverage report, URL-specific reports in Google Analytics (under Behavior -> Site Content -> All Pages).

9. Implement Fixes and Monitor

- Prioritize issues based on severity and impact.
- Apply fixes incrementally and monitor changes in traffic and rankings.
- Document everything for future reference.

ADD

16 – Last, but not least, here's the most important tip I have for conducting a successful forensic SEO audit:

Pretend you're on trial in a court of law. Your livelihood is on the line. If you can't convince a whole jury, beyond the shadow of a doubt, that you have enough evidence to support your claim – then you shouldn't be making it. Pretend that you will be cross-examined and that expert witnesses will try everything in their power to prove you wrong. That mindset is what will drive you to avoid jumping to conclusions and relying on biases that you don't even know you have. It will help you collect enough evidence to prove to yourself that you found the most accurate explanation for this client, and that you are most definitely pointing them in the right direction toward a resolution.

Critical Thinking is CRUCIAL to a Successful Forensic SEO Audit.

You need to **reverse engineer** this because LLMs **answer first - THEN** they look to you for backup.

4. Analyze Technical SEO

- Check for:
 - **Broken links**
 - Server errors (5xx)
 - Slow page load times
 - Mobile usability issues
 - HTTPS and security problems

ADD
ADD
ADD
ADD

8 – Check for changed URLs that were not redirected.

This is also a common one, especially with website redesigns. Look in Google Analytics under Behavior -> Site Content -> All Pages. Set the date range to compare the same time period before and after the drop. Look for big drops on individual URLs, then test those URLs to see if they still exist or if they give a 404 error.

Also look for 404s in Search Console's Coverage report (both under "Errors" and "Excluded") and run an onsite crawl with a tool like Screaming Frog to look for 404s as well.

5. Review Content Changes

- Compare current content with previous versions.
- Look for removed or rewritten high-performing pages.
- Check for duplicate content or thin pages

ADD
ADD
ADD

9 – Check to see if the whole site was affected, or just a section of it.

As best you can, segment the site into different sections and look at traffic patterns for each separately. Use hostnames (Audience -> Technology -> Network and change primary dimension to "hostname") to look at subdomains separately, and use the search function in Behavior -> Site Content -> All Pages to look at subdirectories separately. You may find that the drop was isolated to a certain type of content, such as blog content, or product pages. That doesn't necessarily give you a clear reason for the drop, but it's a great data point to have in order to start to form hypotheses.

UPDATE
←

6. Investigate External Factors

- Examine **backlink profile** for lost or **toxic links**.
- Use tools like **Ahrefs** or SEMrush to detect **negative SEO attacks**.
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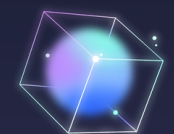
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Bonus Tips!



Beyond reverse-engineering LLM answers, you can apply some structural tactics to make your content more machine-digestible



Content should be broken up VERY granularly!

- 1 to 3 sentences per paragraph
- Bullets & Numbered Lists
- LOTS and LOTS of subheadings!

What is Google Signals?

Google Signals is a feature in Google Analytics 4 (GA4) that enables you to collect more data about your website and app users. This comes from the data that Google has on its signed-in users.

Google Signals is only applicable to users who are both:

1. Signed in to their Google Account (e.g., Gmail, YouTube).
2. Have Ads Personalization enabled in their Google account settings.

What Google Signals Does

Google Signals alters your analytics data in several ways:

1. User Deduplication

Google Signals connects user activity across devices (phone, laptop, tablet) and browsers, enabling GA4 to count one single unique user instead of counting the same person multiple times across their various devices.

2. More Detailed Demographic Data

When activated, Google Signals unlocks specific reporting features that are not available with standard GA4 tracking:

1. **Demographics and Interests:** It populates reports with data on the users' age, gender, and general interests.
2. **Advertising Reports:** It provides more granular detail in the Advertising workspace (e.g., cross-device funnel analysis).

3. Remarketing & Audience Modeling

Since Google Signals unlocks access to more user-specific data, it is necessary for building remarketing audiences in GA4 for use in Google Ads. It enables ads to show to the same person across all different browsers and devices.

Google Signals also enables audience modeling.

What is Audience Modeling?

Audience modeling uses AI and machine learning to find new users that share characteristics or behaviors with your existing users.

This new, larger audience segment is referred to as a "Lookalike Audience."

The Trade-Off: Data Thresholding

When Google Signals is ON, it adds sensitive demographic and cross-device data to your GA4 reports. To comply with legal privacy regulations, GA4 must hide or aggregate any data that could be used to identify a specific user. This is called "Data Thresholding."

What is Data Thresholding?

Data thresholding is a privacy feature in Google Analytics 4 (GA4). Thresholding is automatically applied when Google Signals is active.

Long-form content
should always have a
hyperlinked table of
contents

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2. What Google Signals Does

2.1. 1. User Deduplication

2.2. 2. More Detailed Demographic Data

2.3. 3. Remarketing & Audience Modeling

2.3.1. What is Audience Modeling?

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5.1. The TL;DR (Too-Long, Didn't Read) Summary

5.2. Why Not Have Your Cake and Eat It, Too?

5.3. Comparison of "Signals ON" and "Signals OFF" Properties:

5.4. The Result: All The Benefits, None of the Drawbacks

FAQ: How Does Google Signals Impact Data Collection In GA4?

By Pam Ann Marketing | Published: June 16, 2025

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Share This!



If you're a user of Google Analytics 4 (GA4), you've likely encountered the term "Google Signals." In this FAQ article, we dig into the pros and cons of this GA4 feature and share our approach that we implement for our clients here at Pam Ann Marketing.



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**Add unique/different
FAQs to as many website
pages as possible**

Frequently Asked Questions

What is SEO and why is it important?

SEO, or Search Engine Optimization, is the process of optimizing aspects of your website to give it the best chance of being found by users of Search Engines. This may involve refining technical, content or structural components that will signal to Search Engine crawlers that your site contains information relevant to the users' query. The more areas you can improve, the greater your chances of being found by your potential customers.

How long does it take to see results from SEO?

Improving SEO is not an overnight endeavor. While certain content may see short-term spikes in traffic, lasting success in SEO means playing the long game. Depending on the competitiveness of your industry, the current state of your website and your specific SEO goals, initial progress may appear in a few months, but typically it takes 6 months to a year for lasting growth to appear. And while Google doesn't give full transparency about their algorithms, we closely follow their guidelines to target key site components that have been proven to grow traffic.

Do you offer customized SEO strategies?

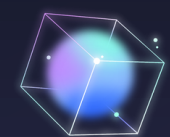
Yes, Pam Ann Marketing develops tailored SEO strategies based on your business's unique needs, industry, target audience, and competition. All new clients fill out a questionnaire prior to our kickoff call so we can best determine their specific goals and objectives and how to achieve them most effectively.

How do you measure the success of an SEO campaign?

We use several important metrics to measure progress, including:

- Organic traffic growth, representing the increase in visitors arriving at our website through unpaid search engine results.
- Keyword rankings, demonstrating the ability to capture relevant user intent.
- Conversion rates, which track the percentage of visitors completing desired actions, such as making a purchase, filling out a form, or subscribing to a newsletter.

We provide regular reporting and analysis to ensure clients can see their progress and quickly adapt to the ever-changing online landscape.



Preparing for AI-Only Audiences





The Present:

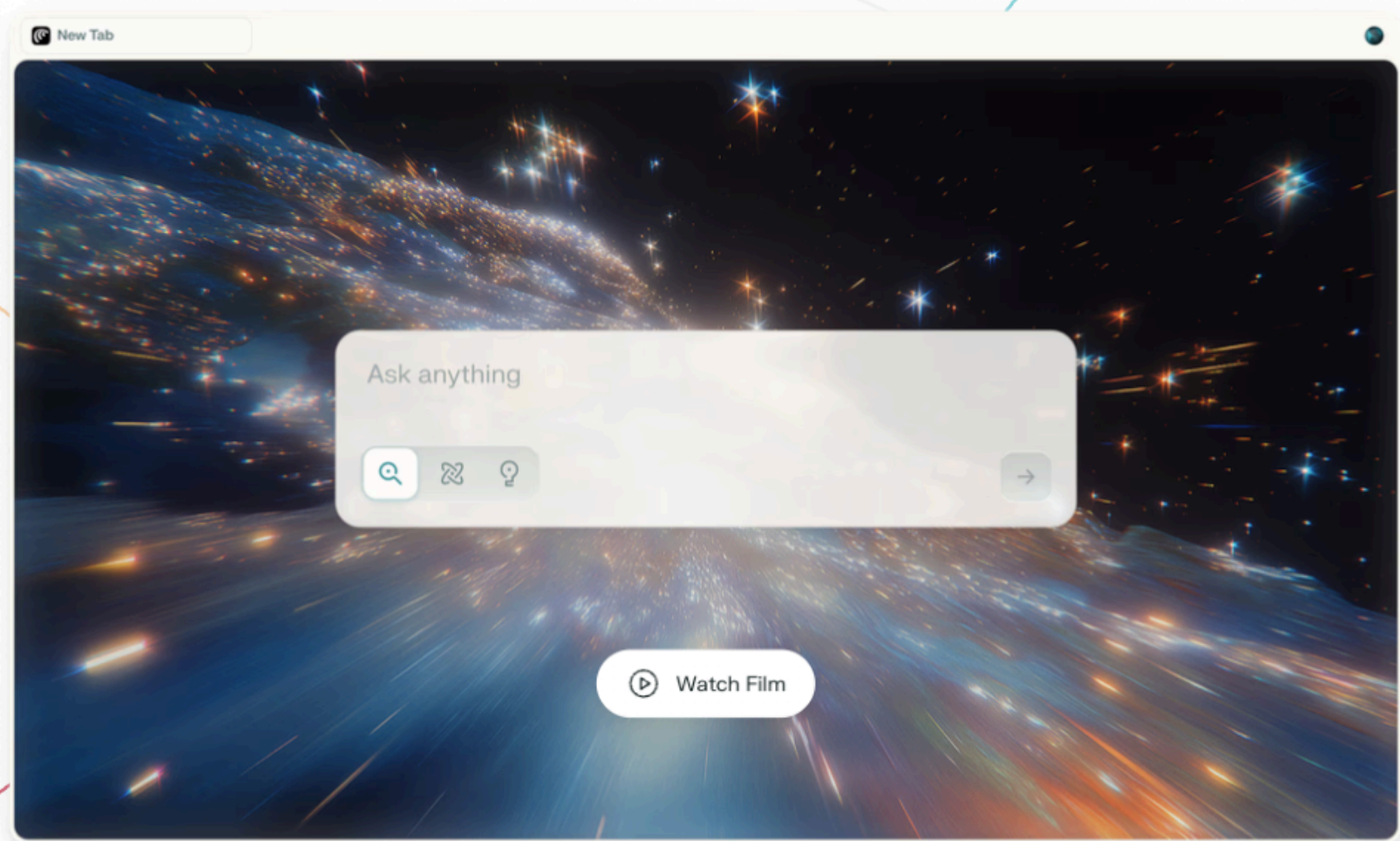
Human users
still need to
click through to
websites to
convert

A new browser from [Perplexity](#)

The browser that works *for* you



Download Comet



The Near Future:

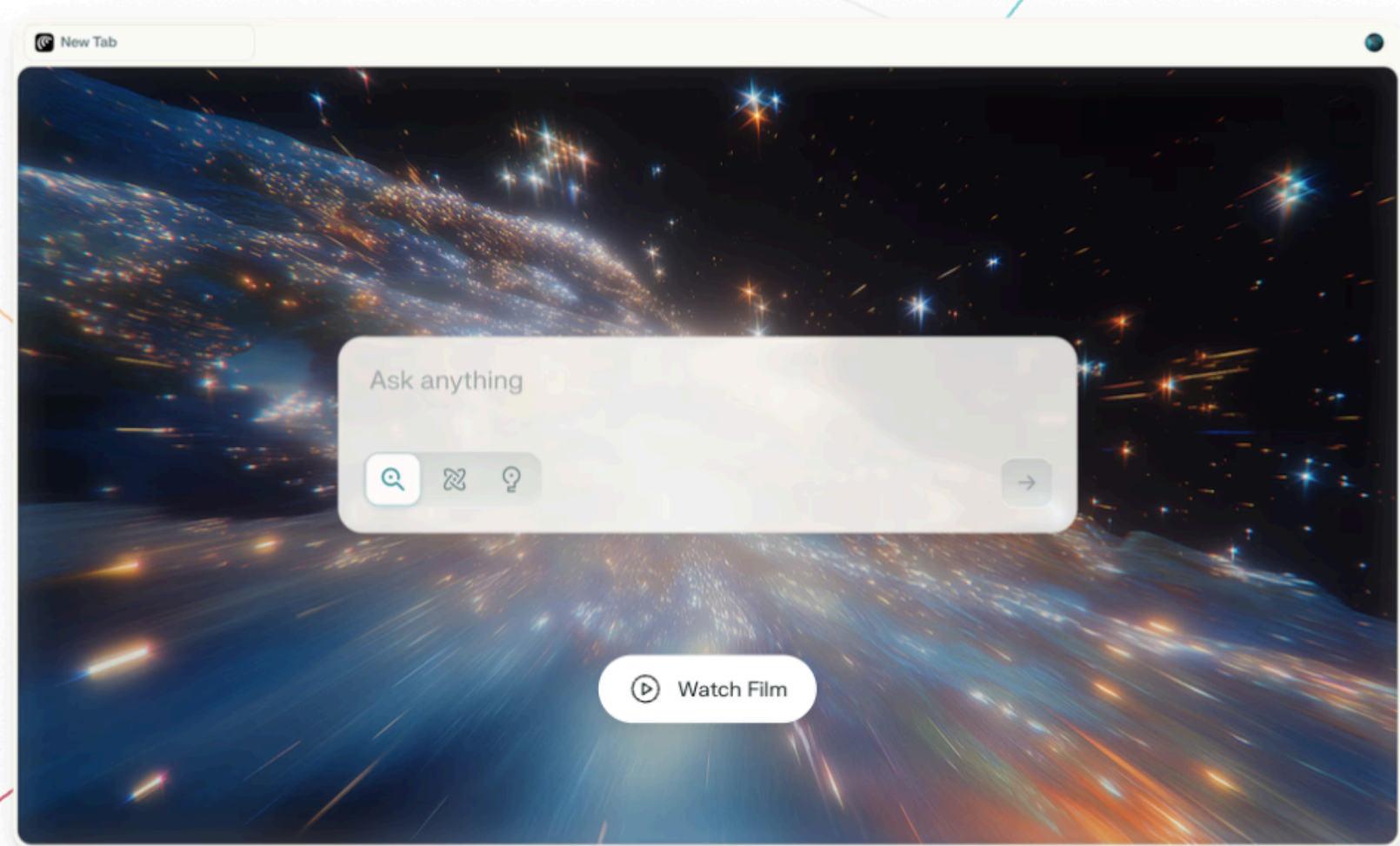
AI Browsers will do that for you!

A new browser from [Perplexity](#)

The browser that works *for* you



Download Comet



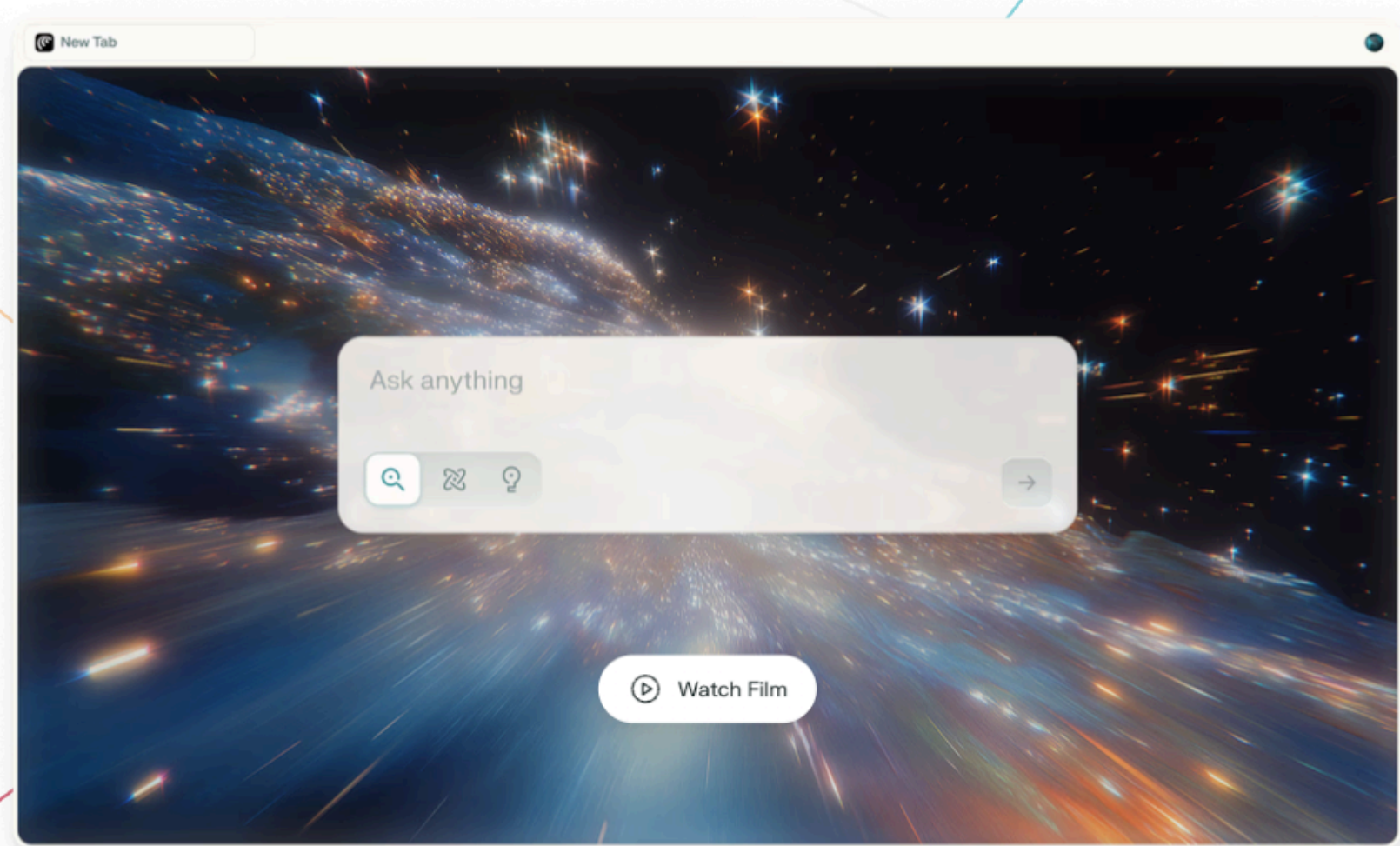
AI browsers will change user behavior by transforming the user **from a passive navigator to an active delegator.**

A new browser from Perplexity

The browser that works *for* you



Download Comet



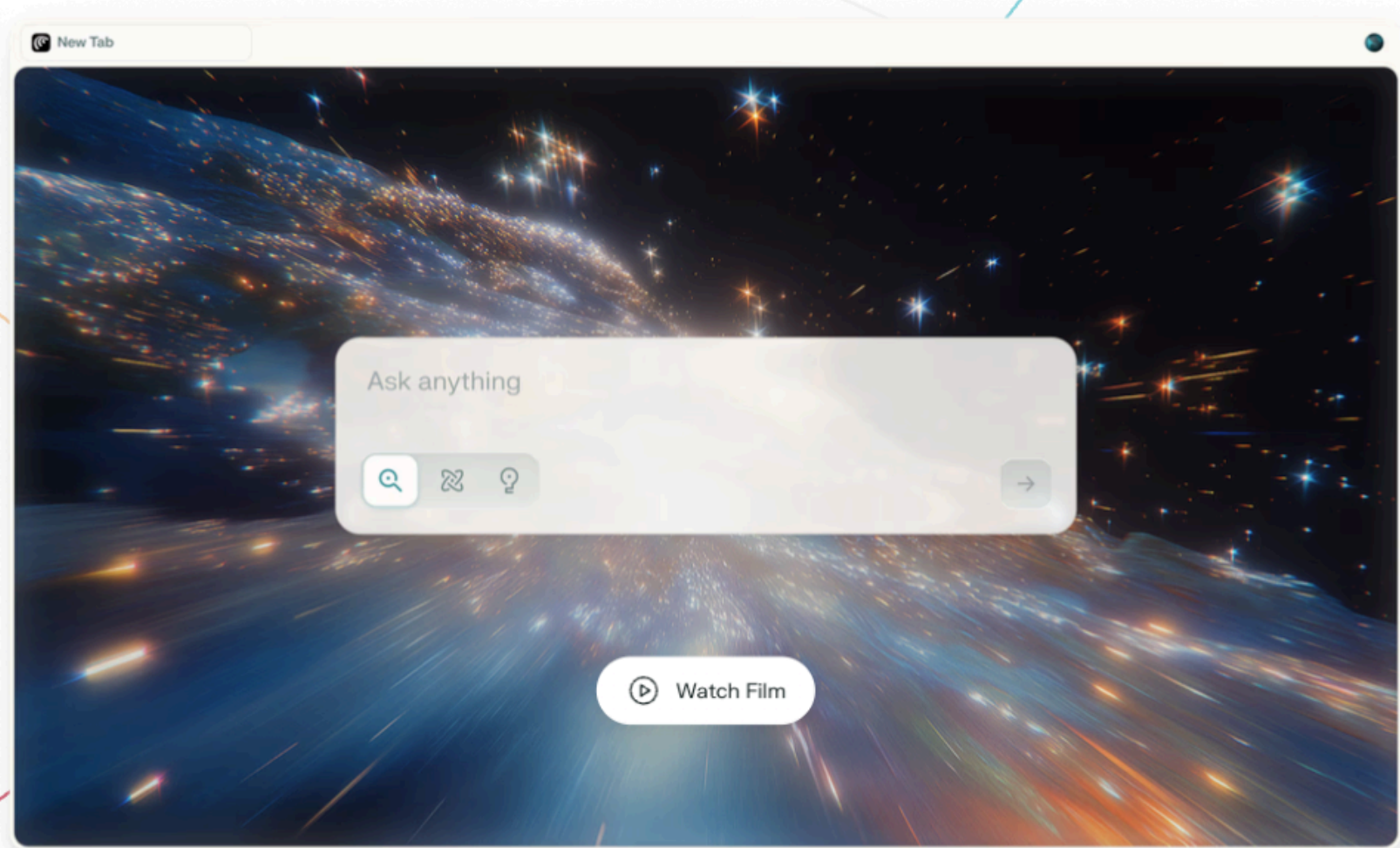
Instead of browsing, users will **converse** with an AI assistant to **get summaries and automate tasks** that reduce cognitive load and shift how they interact with information.

A new browser from [Perplexity](#)

The browser that works *for* you



Download Comet



This shifts our goals
from getting top search
engine **rankings** to
getting AI agent
recommendations.

shortlist the top accounting firms in morris county nj and submit a contact form requesting business tax return pricing from each

Assistant Sources · 13 Steps

 cpatool.com
Public Accounting Firms in Morristown, New Jersey...

 Morris County Chamb...
Accounting, Auditing and Related Services - Morris

 webgility.com
10 Best Accounting Firms in New Jersey - Webgility

 Daniel P. Vigilante CPA
Financial Service | Daniel P. Vigilante CPA Morris Plain...

Here's a shortlist of the top accounting firms in Morris County, NJ (covering both regional standouts and those highlighted by chamber, industry, and consumer rankings):

Humans won't need to go to websites!

Would you like to submit a request with identical information to each, or do you want to specify your business type, revenue, or additional details for quote accuracy? If you provide a default message, I can proceed to fill out each firm's contact or quote form and request pricing for business tax return services.

looking for a new accountant for my small business. reach out to me at testemail@test.com

Perplexity Sources · 20

Skip remaining steps

- Identifying suitable small business accountants and reaching out to them using the provided contact information.

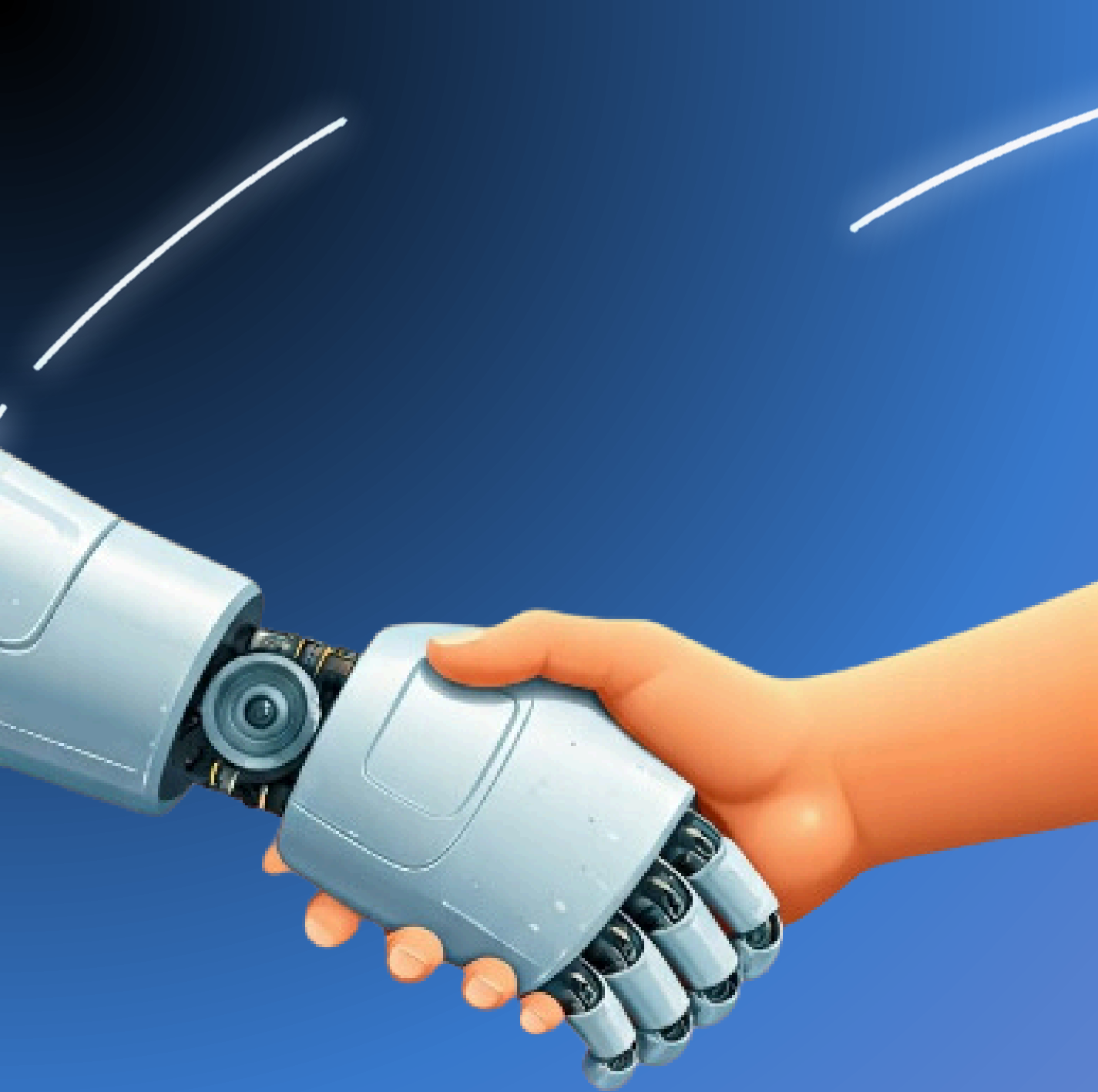
Initiating filling out the contact form



The Future-Future:

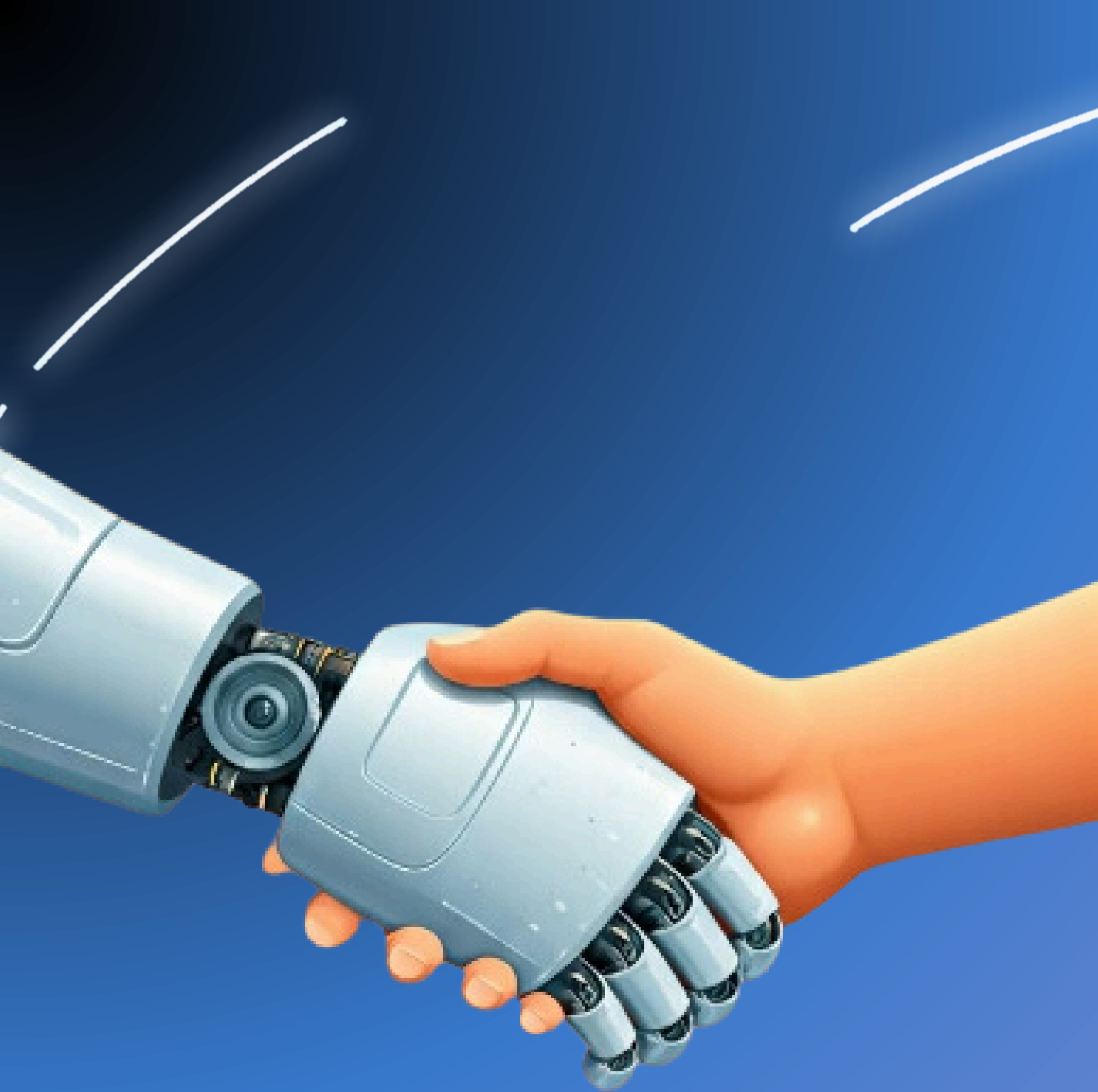
Websites No
Longer Exist!

AI Agents do ALL
the searching AND
converting! 🤯



Currently, humans still do the majority of clicking, but:

- Click-through rates are already reducing due to reliance on AI Overviews, and...
- AI browsers are here NOW and WILL become popular!

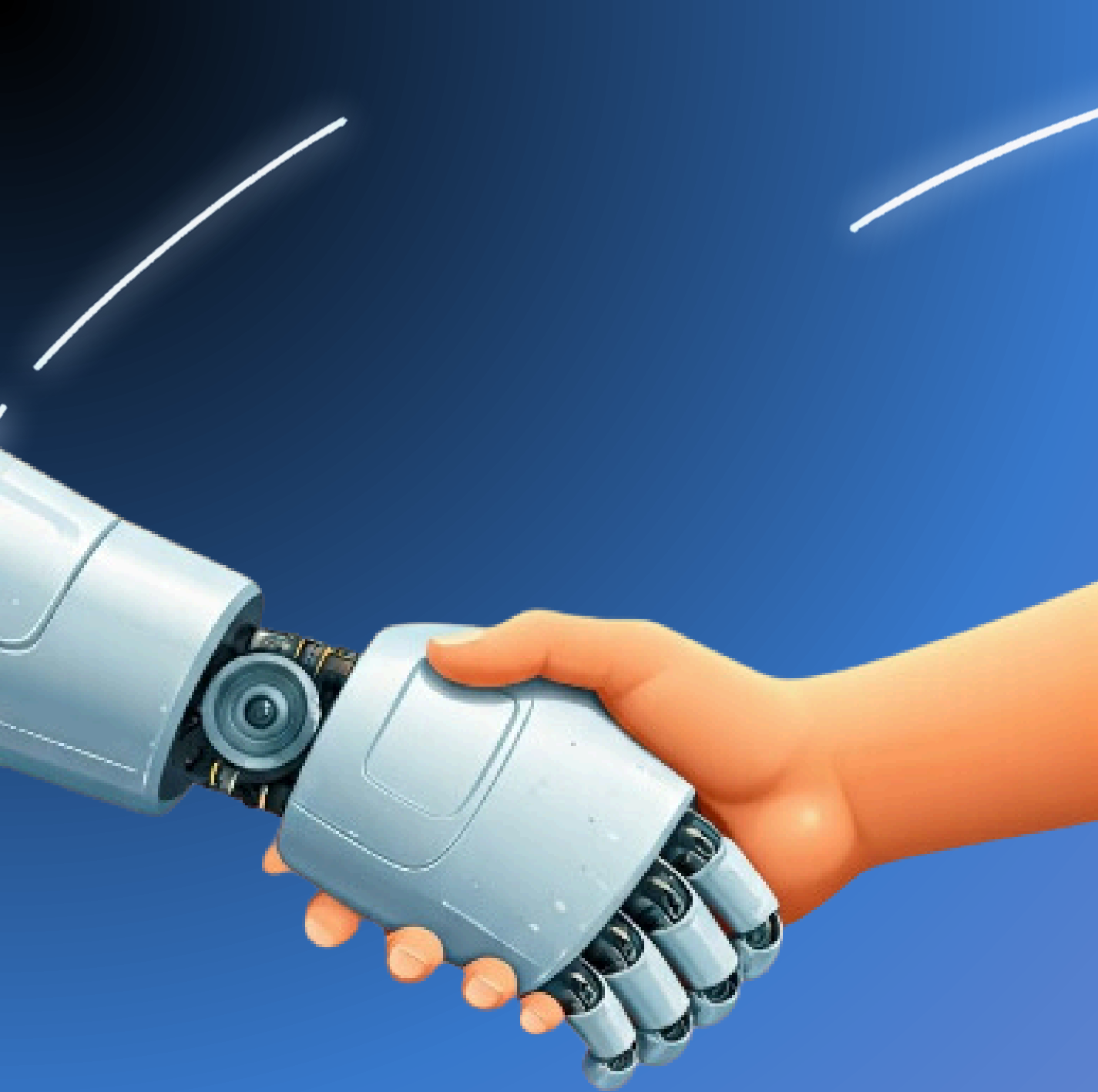


At that point, your digital marketing will rarely reach humans directly at all.

In order to acquire a customer, you'll have to go through their AI agent!

It's like making an appointment with a doctor. You can't call the doctor directly; you must go through their staff.

The future of marketing will be convincing AI agents (your customer's "staff") to recommend you!



We have time before that reality surfaces, but you **MUST prepare now for AI browsing in the near future!**

That involves optimizing your content for LLMs.

SEO has already become LLMO.

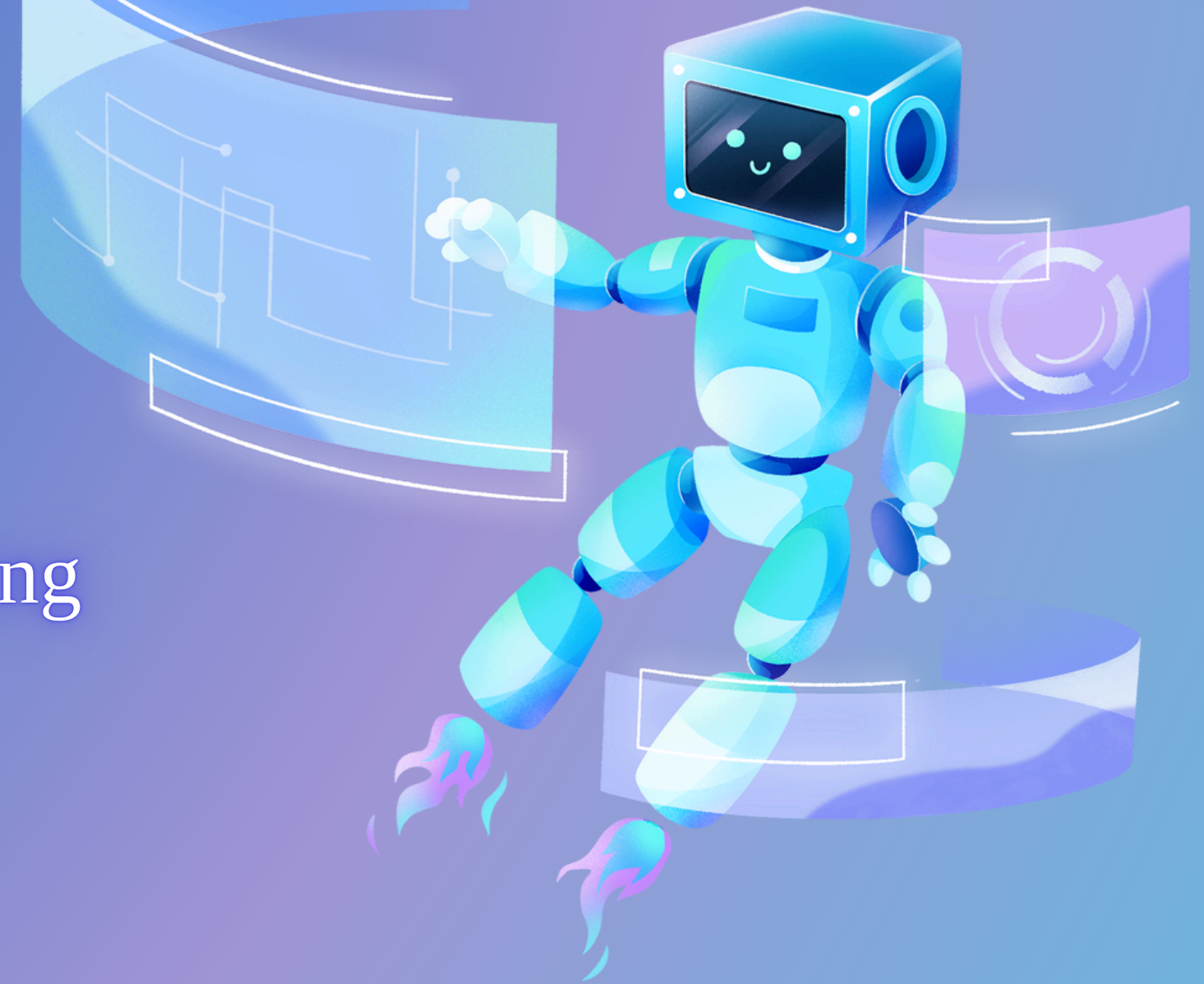
LLMO will eventually become AXO.

QUESTIONS?

pam@pamannmarketing.com

tiktok.com/@pamannmarketing

youtube.com/@pamannmarketing



PAM ANN MARKETING