

## THE SHIFT

## Can This A.I.-Powered Search Engine Replace Google? It Has for Me.

A start-up called Perplexity shows what's possible for a search engine built from scratch with artificial intelligence.



By Kevin Roose

Kevin Roose used the Perplexity search engine for several weeks to report this column.

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For my entire adult life, whenever I've had a question about the world or needed to track down something online, I've gone to Google for answers.

But recently, I've been stepping out on Google with a new, A.I.-powered search engine. (No, not Bing, which is dead to me after it tried to break up my marriage last year.)

It's called Perplexity. The year-old search engine, whose founders previously worked in A.I. research at OpenAI and Meta, has quickly become one of the most buzzed-about products in the tech world. Tech insiders rave about it on social media, and investors like Jeff Bezos — who was also an early investor in Google — have showered it with cash. The company recently announced that it had raised \$74 million in a funding round led by Institutional Venture Partners, which valued the company at \$520 million.

Many start-ups have tried and failed to challenge Google over the years. (One would-be competitor, Neeva, shut down last year after failing to gain traction.) But Google seems less invincible these days. Many users have complained that their Google search results have gotten clogged with spammy, low-quality websites, and some people have started looking for answers in places like Reddit and TikTok instead.

Intrigued by the hype, I recently spent several weeks using Perplexity as my default search engine on both desktop and mobile. I tested both the free version and the paid product, Perplexity Pro, which costs \$20 per month and gives users access to more powerful A.I. models and certain features, such as the ability to upload their own files.

Hundreds of searches later, I can report that even though Perplexity isn't perfect, it's very good. And while I'm not ready to break up with Google entirely, I'm now more convinced that A.I.-powered search engines like Perplexity could loosen Google's grip on the search market, or at least force it to play catch-up.

I'm also scared that A.I. search engines could destroy my job, and that the entire digital media industry could collapse as a result of products like them. But I'm getting ahead of myself.

### Where it shines

At first glance, Perplexity's desktop interface looks a lot like Google's — a text box centered on a sparse landing page.

But as soon as you start typing, the differences become obvious. When you ask a question, Perplexity doesn't give you back a list of links. Instead, it scours the web for you and uses A.I. to write a summary of what it finds. These answers are annotated with links to the sources the A.I. used, which also appear in a panel above the response.

I tested Perplexity on hundreds of queries, including questions about current events (“How did Nikki Haley do in the New Hampshire primary?”), shopping recommendations (“What's the best dog food for a senior dog with joint pain?”) and household tasks (“How long does beef stew stay good in the fridge?”).

Each time, I got back an A.I.-generated response, generally a paragraph or two long, sprinkled with citations to websites like NPR, The New York Times and Reddit, along with a list of suggested follow-up questions I could ask, such as “Can you freeze beef stew to make it last longer?”

One impressive Perplexity feature is “Copilot,” which helps a user narrow down a query by asking clarifying questions. When I asked for ideas on where to host a birthday party for a 2-year-old, for example, Copilot asked whether I wanted suggestions for outdoor spaces, indoor spaces or both. When I selected “indoor,” it asked me to choose a rough budget for the party. Only then did it give me a list of possible venues.

Perplexity also allows users to search within a specific set of sources, such as academic papers, YouTube videos or Reddit posts. This came in handy when I was looking up how to change a setting on my house's water heater. (Exciting stuff, I know.) A Google search yielded a bunch of less-than-helpful links to D.I.Y. tutorials, some of which were thinly veiled ads for plumbing companies. I tried the same query on Perplexity, and narrowed my search to YouTube videos. Perplexity found the video I needed for my exact model of water heater, extracted the relevant information from the video and turned it into step-by-step instructions.

Under the hood, Perplexity runs on OpenAI's GPT-3.5 model along with its own A.I. model — a variant of Meta's open-source Llama 2 model. Users who upgrade to the Pro version can choose between a handful of different models, including GPT-4 and Anthropic's Claude. (I used GPT-4 for most of my searches, but I didn't see much of a difference in the quality of the answers when I chose other models.)

Perplexity is also refreshingly good at admitting when it *doesn't* know something. Sometimes, it gave a partial response to my question, with a caveat like “No further details are provided in the search results.” Most A.I. chat products I've used lack this kind of humility — their responses sound confident even when they're spouting nonsense.

### Where Google still reigns

During my tests, I found Perplexity most useful for complicated or open-ended searches, such as summarizing recent news articles about a specific company or giving me suggestions for date-night restaurants. I also found it useful when what I was looking for — instructions for renewing a passport, for example — was buried on a crowded, hard-to-navigate website.



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But I did sneak back to Google for a few types of searches — usually, when I was looking up specific people or trying to go to websites I already knew existed. For example: When I typed “Wayback Machine” into my browser's search bar, I was redirected to Perplexity, which spit out a paragraph-long essay about the history of the Internet Archive, the organization that maintains the Wayback Machine. I had to hunt for a small citation link to get to the Wayback Machine's website, which is what I wanted in the first place.

A similar thing happened when I asked Perplexity for driving directions to a work meeting. Google would have given me turn-by-turn directions from my house, thanks to its integration with Google Maps. But Perplexity doesn't know where I live, so the best it could offer me was a link to MapQuest.

Location data is just one of the many advantages Google has over Perplexity. Size is another — Perplexity, which has just 41 employees and is based out of a shared working space in San Francisco, has 10 million monthly active users, an impressive number for a young start-up but a speck compared with Google's billions.

Perplexity also lacks a lucrative business model. Right now, the site has no ads and fewer than 100,000 people paying for the premium version, said Aravind Srinivas, the company's chief executive. (Mr. Srinivas didn't rule out switching to an ads-based model in the future.) And, of course, Perplexity doesn't offer versions of Gmail, Google Chrome, Google Docs or any of the dozens of other products that make Google's ecosystem so inescapable.

Mr. Srinivas told me in an interview that while he believed Google was a formidable competitor, he thought that a small, focused start-up could give it a startle.

“What makes me confident is the fact that, if they want to do it better than us, they would basically have to kill their own business model,” he said.

### What about hallucinations?

One problem with A.I.-based search engines is that they tend to hallucinate, or make up answers, and sometimes stray from their source material. This problem has haunted several A.I.-search hybrids, including Google's initial release of Bard, and it remains one of the biggest barriers to mass adoption.

In my testing, I found that Perplexity's answers were mostly accurate — or, to be more precise, they were as accurate as the sources they drew upon.

I did find a few errors. When I asked Perplexity when Novak Djokovic's next tennis match was, it gave me the details of a match he'd already finished. Another time, when I uploaded a PDF file of a new A.I. research paper and asked Perplexity to summarize it, I got a summary of an entirely different paper that was published three years ago.

Mr. Srinivas acknowledged that A.I.-powered search engines still made mistakes. He said that because Perplexity was a small, relatively obscure product, users didn't expect it to be as authoritative as Google — and that Google would struggle to build generative A.I. into its search engine because it needed to uphold its reputation for accuracy.

“Let's say you use our product and we do well on eight out of 10 queries. You'd be impressed,” Mr. Srinivas said. “Now let's say you use Google's product and it only gets seven out of 10. You'd be like, ‘How can Google get *three queries wrong*?’”

“That asymmetry is our opportunity,” he added.

#### **A win for users, a loss for publishers**

Even though I enjoyed using Perplexity, and I'm likely to keep using it in tandem with Google, I'll admit that I got a gnawing feeling in my stomach after seeing it spit out pristine, concise summaries of news stories, product reviews and how-to articles.

Much of today's digital media economy still relies on a steady flow of people clicking on links from Google, and being served ads on publishers' websites.

But with Perplexity, there's usually no need to visit a website at all — the A.I. does the browsing for you and gives you all the information you need right there on the answer page.

The possibility that A.I.-powered search engines could replace Google traffic — or spur Google to put similar features into its search engine, as it has started doing with its “search generative experience” experiment — is partly why many digital publishers are terrified right now. It's also part of the reason some are fighting back, including The Times, which sued OpenAI and Microsoft for copyright infringement last year.

After using Perplexity, and hearing about similar products being developed by other start-ups, I'm convinced that the worriers have a point. If A.I. search engines can reliably summarize what's happening in Gaza, or tell users which toaster to buy, why would anyone visit a publisher's website ever again? Why would journalists, bloggers and product reviewers continue to put their work online if an A.I. search engine is just going to gobble it up and regurgitate it?

I brought these fears up to Mr. Srinivas, who responded with a diplomatic dodge. He conceded that Perplexity would probably send less traffic to websites than traditional search engines. But he said the traffic that remained would be higher quality and easier for publishers to monetize, because it would be the result of better, more targeted queries.

I'm skeptical of that argument, and I'm still nervous about what the future holds for writers, publishers and people who consume online media.

So for now, I'll have to weigh the convenience of using Perplexity against the worry that, by using it, I'm contributing to my own doom.

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