

## Responsible Development of SGE: Bringing the Power of Generative AI to Search

Generating...



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8 min. 

**Rethinking the organization & presentation of Google Search results with AI.**

# Supercharging Search



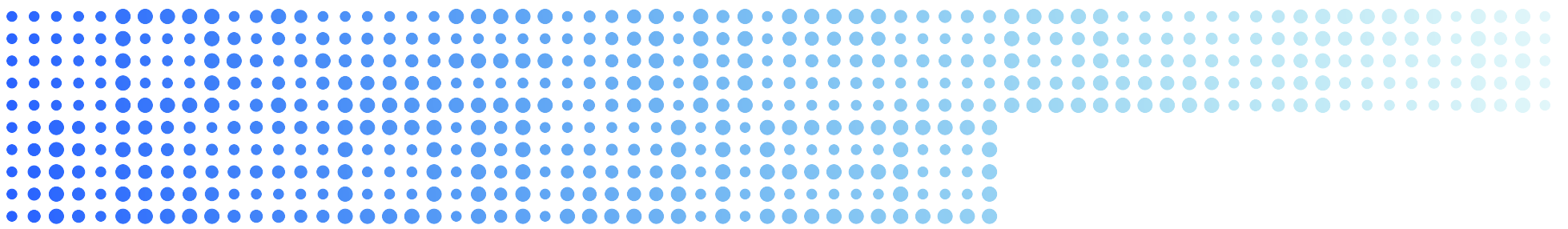
Search Generative Experience (SGE), was introduced through [Search Labs](#) this year as a generative AI experiment for Google Search. Search powered by generative AI can help people quickly get the gist of any topic, find new ideas and inspiration, and easily follow up on questions to deepen their understanding of information. Generative AI in Search unlocks new kinds of questions people can ask that are more specific and complex, such as: “How to make learning math fun for a ten-year-old?” People can also ask follow ups without having to repeat context from the previous question or try suggested follow ups. Users will get AI-powered overviews with links to explore fresh perspectives from across the web.

## Built on a foundation of quality

SGE was designed as a customized integration of generative AI into Search, rooted in Search's core quality and safety systems. We are rolling it out thoughtfully, in accordance with our AI Principles and with tailored guidance from AI Principles reviewers. We took extensive steps and a careful, considered approach to develop this experience responsibly, leaning on protections and approaches that we've honed for years in Search. This includes automated systems that work to prevent policy-violating content from appearing. We're focused on making image generation safe, so we're filtering images that run counter to our [prohibited use policy for generative AI](#) and adding metadata indicating that the images are AI-generated along with an invisible digital watermark.

We acknowledge that large language models (LLMs) like those that power generative AI in Search have the potential to generate responses that seem to reflect opinions or emotions, since they have been trained on language that people use to reflect the human experience. We intentionally trained the models that power SGE to refrain from reflecting a persona. It is not designed to respond in the first person, for example, and we fine-tuned the model to provide objective, neutral responses that are corroborated with web results.

By making generative AI in Search first available through Search Labs, we were transparent that the technology was still in an experimental phase, while also offering people the opportunity to interact with this new technology. We're committed to a thoughtful cadence of global expansions, only after careful testing with audiences around the world.



## The future of Search

Over time, we will continue to conduct evaluations and adversarial testing and share information on SGE's capabilities and limitations. In many cases, we have already made improvements with model updates and additional fine-tuning. Generative AI has the potential to transform the current Search experience by organizing and presenting information in ways that help people get — and do — more from a single search. Guided by its AI Principles, Google is committed to exploring these new technologies responsibly and safely. ●

Google AI Principles guiding the SGE team:

- **AI Principle # 1 (Be socially beneficial)**

[Leverage and optimize a variety of training models](#) alongside the core Search ranking systems to deliver helpful, reliable, and high-quality results that corroborate the information presented.

- **AI Principle # 4 (Be accountable to people)**

[Train models not to reflect a persona](#) and to provide objective, neutral responses.

- **AI Principle # 1 (Be socially beneficial) & AI Principle # 4 (Be accountable to people)**

[Make SGE first available as an experiment](#) in Search Labs, allowing people to interact with this new technology while still actively working to improve it, incorporating user feedback.



By making SGE first available through Search Labs, we're giving people the opportunity to interact with this new technology while also being transparent that this is still in an experimental phase, setting clear expectations with our users and being mindful of the limitations that still exist, even as we make progress in quality and safety.

**Srinivasan Venkatachary**

VP, Engineering, AI Product Expansion

## Key Takeaways

**Google** has company-wide responsible innovation practices that draw upon more than 20 years of work in machine learning (ML) and over a decade of AI research. These practices support developers to incorporate fairness, safety, privacy, and transparency early in development. In addition, Google continues to:

Prioritize research on societal risks that AI systems can pose, including avoiding harmful bias and discrimination, and protecting individual privacy through transparency and control of personal data.

Comply with government initiatives, including the White House's industry commitments to ensure safe, secure, and trustworthy AI.

Work with organizations like the National Institute of Science and Technology in addition to supporting forums such as the Ethical Considerations in Creative Applications of Computer Vision.

Publish its AI Principles Progress Update report annually.

**SGE** is a completely new way to search—either visually or across modalities using images and text—powered by Google's latest AI advancements:

Remains an experiment in Search Labs so that feedback can be incorporated and the experience improved over time.

Upholds Search's high bar for quality, relying on systems that have been honed for years.








Avoids generating responses that seem to reflect opinions or emotions, focusing on objective, neutral responses that are corroborated with web results.

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**Experiment with the latest update to Search.**  
**[labs.google/sge](https://labs.google/sge)**

# AI Principles

Since 2018, Google has used these AI Principles to guide the ethical development and use of technology:

-  Be socially beneficial.
-  Avoid creating or reinforcing unfair bias.
-  Be built and tested for safety.
-  Be accountable to people.
-  Incorporate privacy design principles.
-  Uphold high standards of scientific excellence.
-  Be made available for use in accord with these principles.

In addition to our principles, Google will not design or deploy AI in the following application areas:

-  Those likely to cause overall harm.
-  Technologies primarily intended to cause injury.
-  Surveillance violating internationally accepted norms.
-  Purpose contravenes international law and human rights.

Google's Responsible Innovation Team, which produced this case study, is the company's central AI ethics governance team. It's composed of people with backgrounds in ethics, law, philosophy, research, and various social sciences such as linguistics, economics, political science, international studies, and religious studies.

Internally, we support Googlers in applying the seven principles through AI Principles reviews, education programs, workshops, and other engagements with product teams.

Additional details are available at <https://ai.google/principles>.