Google Research

Google Academic Research Awards 2025 Application Companion

tl;dr – This Application Companion provides resources to support applicants with structuring and developing high-quality applications. It includes the program overview, how to apply and formatting guidelines, samples of high-scoring responses, open advice to proposers and a submission FAQ. It is available at goo.gle/gara-application-companion.

For more information, visit goo.gle/GARA or contact research-awards@google.com.

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Program overview

GARA aims to support groundbreaking foundational and applied research in computing and technology around the world. Each funding cycle, Google will identify key research areas and invite proposals from academics who are advising students and conducting research in a variety of technologically-focused domains that have societal implications.

Each cycle, GARA's research areas will evolve to address global challenges. This cycle's topics are available at goo.gle/gara.

Award Details

Applications are open to academic researchers who are currently advising students and conducting research in technology and computing at academic institutions. Eligibility guidelines, award maximums, and requirements may vary across awards. Please refer to the specific award's website for detailed information.

Review criteria

Only complete applications that meet the following criteria will be scored:
- Submitted by eligible applicants

- Related to computing or technology in one or more focus areas
- Adhere to the required formatting guidelines

Scoring will be based on the following areas:

- **Faculty Merit.** Successful faculty applicants will demonstrate a strong track record in research, community engagement, and open source contributions, with the potential to drive responsible innovation. Prior experience with the impacted community and expertise in social, cultural, or regional aspects relevant to the research are highly valued. Proposals will be evaluated on the faculty's qualifications, both individually and as a team, to effectively execute the proposed activities.
- **Research Merit.** Successful research proposals will align with Google Research interests, demonstrate innovation, and have the potential for significant impact on the field and society. Specifically, proposals should:
  - Clearly outline the potential benefits to society or positive societal change
  - Detail a comprehensive plan for achieving research goals, including resource allocation
  - Showcase innovative research approaches
  - Align with Google's current areas of interest
- **Proposal Quality.** Successful proposals will be clear, focused, and adhere to the provided guidelines. The ideal proposal should be easy to navigate, clearly articulating the proposed approach to the problem and the team's capability to execute it. To further strengthen the proposal, applicants are encouraged to provide additional documentation demonstrating the potential impact of the program.
- **AI Ethics Principles.** Proposals will be evaluated based on their alignment with Google's AI principles. This includes ensuring the research doesn't violate any of these principles, but also assessing how the work contributes to them. Strong proposals will demonstrate a clear social benefit or advancement of scientific understanding in the relevant field.

How to apply

Locating the application

During the open application period between June 18 – July 23, 2025, applicants should locate their RFP of interest and click the "Apply now" button, which will direct applicants to the application form.

Please be sure to complete all required fields, upload any necessary documents, and thoroughly review your application before clicking "Submit."

Formatting guidelines

Filename: Submit your proposal and CV as a single PDF file. Name the file in the following format: "[First InitialLast name]-2025" (e.g., "JDoe-2025"). Use only letters, numbers, and hyphens.

Proposal length:
- 5 pages maximum for single PI submissions
- 7 pages maximum for submissions with a co-PI with CV

Formatting:
- Single-spaced
- 1-inch margins
- No smaller than 10-point font

Proposal should include the following numbered sections:

Overview (3 pages max)
1. Proposal Title
2. Full name, contact information (postal address, email address, phone), and affiliation (institution and/or department) of PI(s)
3. Abstract (concise summary of proposal)
4. Research goals and problem statement
5. Description of the proposed work, expected outcomes, and results
6. Discussion of how the research relates to prior work (including your own)
7. Explanation of your qualifications to conduct this research
8. For ongoing projects, explain how this funding (whether by unrestricted gift or another type, specified in the RFP) would enhance your existing project.
9. For RFPs that specify the use of a particular product, methodology, or other constraint, please clearly describe how your project will incorporate and utilize that specific requirement.
10. Data policy: Describe your intentions for sharing the project's output with the broader research community (e.g., open-sourcing code, making datasets public). Please note that for those awards that are structured as unrestricted gifts, there are no legal requirements once a project is selected for funding. This is simply a statement of your current intentions. However, for research area topics that are not awarded as unrestricted gifts (usually those that require the use of a specific product, methodology, or other constraint), open sourcing the software, models, or other intellectual property developed during the project will be a mandatory condition for receiving the award, unless otherwise specified in a separate agreement between Google and the recipient.

CVs (4 pages max):
11. Primary PI: 2-page max CV required
12. Co-PI: 2-page max CV (optional)

Important notes
1. The co-PI's CV is the only content allowed on the additional 2 pages of a co-PI proposal. Any submitted CV longer than 2 pages will be truncated before review.
2. Proposals without a co-PI's CV should not exceed 5 pages.
3. References and budget details should be excluded from the proposal itself. Instead, use the designated sections in the application form for this information.

Sample responses to current application questions

We've included high-scoring samples from our programs that should offer guidance in crafting your own compelling proposal.

Proposal Abstracts

Sample 1: We propose to 1) examine how young people use, perceive, and engage with generative, as well as more traditional forms of AI in education, learning, and child development, and 2) identify needs, challenges, and opportunities that arise when young people use [AI technology]. In doing so, we aim to provide 3) policy guidelines regarding youth learning, safety, and privacy in AI interactions and 4) design guidelines for AI product developers that prioritize all youth learning and development, while targeting growing inequalities in both access and achievement.

Sample 2: The growing utilization of machine learning (ML) in decision-making processes raises questions about its benefits to society. In this proposal, we identify and analyze three axes of heterogeneity that significantly influence the trajectory of ML products. These axes are i) values, culture and regulations, ii) data composition, and iii) resource and infrastructure capacity. Recently, I have demonstrated how these axes are interdependent and mutually influence one another, emphasizing the need to consider and address them jointly. Unfortunately, the current research landscape falls short in this regard, often failing to adopt a holistic approach. The fragmented study of the three axes poses a significant challenge, leading to an impractical solution space that lacks reflection of real-world scenarios, specifically for marginalized communities. The objective of this research program is to attack some of these shortcomings and develop mathematical tools and algorithms for effective and efficient collaborative ML frameworks using federated learning for clients with varying data, values and resources. Addressing these issues is crucial to ensure a more comprehensive understanding of the interconnected nature of society and to foster the democratic and inclusive development of ML systems that are more aligned with real-world complexities and its diverse requirements.

Sample 3: The rise of Large Language Models (LLMs) has created new challenges and opportunities for education. In computer science education, there is both enthusiasm and concern regarding how to best teach students how to program in the presence of effective AI assistants like GitHub Copilot and ChatGPT. The research is encouraging, with many professional programmers adopting these tools and becoming more efficient at their work. Moreover, recent research has shown students taught to learn to program in Python using AI assistants learned the material better than students who were denied the AI assistants, even when the AI assistants are later taken away. Given these encouraging findings, we co-authored a book that is meant to help students learn, and instructors teach, programming with an AI assistant. Our hypothesis is that the skills we need to teach are different now (for example, a transition away from a heavy code-writing focus toward more testing and problem decomposition). Our introductory course at [University] will move to this new way of teaching programming in the Fall of 2023, and we plan to make our course materials available to any teacher who would like to update their course in light of the affordances of generative AI. This proposal seeks to fund our research studying the effectiveness of the course, including failure rates, student performance on assessments, and student attitudinal data. An important concern for the community is whether these tools will help level the playing field for students without prior experience, who are disproportionately from underrepresented

demographic groups in computing, by providing valuable additional instruction; or if these tools will exacerbate existing divides due to inequities in access to these tools. As such, a core component of the course evaluation will be to examine how students from underrepresented groups in computing are impacted (in terms of failure rates, grades, and attitudes) by the new course design compared to their majority counterparts and to students from underrepresented groups in prior course offerings.

How will Google funding create differentiating opportunities for this project?

Sample 1: Large-scale nationally representative data about youth and AI is urgently needed, but traditional federal funding mechanisms are too slow to deploy in this rapidly changing environment. Funding will allow for collection of much needed evidence at a time and scale necessary to limit harm to marginalized communities and enhance society's ability to ethically leverage advanced AI to narrow existing gaps in support for learning and youth development in these communities.

Sample 2: Securing Google funding for this research project is not only beneficial for the development of the proposed theoretical framework but also enables the collection of data related to online sexual grooming. This funding will allow for the inclusion of diverse gender, age groups, geographical locations, and socio-cultural backgrounds in the data collection process. Despite evolving regulations and emerging needs in this application domain, the lack of available data poses significant challenges for progress and advancements. With the support of this grant, efforts can be directed towards collecting data that can benefit the research community and enhance the development of effective strategies to combat online sexual grooming. To ensure comprehensive and inclusive data collection, participatory design practices will be followed. This approach involves relevant stakeholders, including individuals affected by online sexual grooming, in the design and data collection process.

Sample 3: We have moved quickly to adapt to the advent of LLMs and to design a new curriculum to teach introductory programming incorporating LLMs. Because we have moved quickly, we have no funding in place for the graduate student(s) who will be leading the study this fall. Without the funding, it's unclear if we'll be able to conduct the study and we would certainly not be able to conduct the study as described in the proposal without additional funding. If we are able to conduct the study, we will learn about how using LLMs in introductory programming impacts students from groups traditionally underrepresented in computing. Our findings will be shared with the broader CS education community and can be used to make future curricular decisions that will impact the next generation of software engineers.

Without funding, this proposed work cannot be conducted; therefore, the award is crucial for its completion. Additionally, the award will raise awareness of persistent perinatal mental health inequities and foster collaboration opportunities with other stakeholders committed to addressing this issue.

Explanation of qualifications to conduct this research

Sample 1: The researchers have extensive experience in research supportive of young people related to advanced technology use. In particular, our research team has a long history of tight collaboration with community organizations and schools and a consistent approach of centering the voices of youth, particularly those who are disabled and from underserved backgrounds. We will use our existing large samples of youth built in collaboration with schools from both North Carolina and California as well as our existing networks and collaborations with non-profit partners who serve youth to ensure a diverse sample of survey respondents and

interviewees. More importantly, we will use these collaborations to ensure that the research is disseminated beyond academic audiences to make impact on policy and practice and serve the needs of these communities directly.

Sample 2: My expertise in algorithmic fairness and privacy-preserving machine learning is crucial to the success of this project. I have collaborated with esteemed institutions and I was awarded the 2020 Google award for my work on addressing algorithmic fairness in deep learning. In the realm of deep learning, I plan to collaborate closely with experts in the field at [University], led by [leading researcher]. Regarding privacy, I have conducted research on federated learning with differential privacy and secure multi-party computation (MPC). My project on fair and private ad targeting earned me [a prominent] privacy enhancing award. Furthermore, I have initiated projects that combine both fairness and privacy, specifically in the context of sexual grooming. My student's thesis that utilized federated learning for this application domain received the Best Thesis Award at [University].

Sample 3: We both have prior experience introducing pedagogical innovation and measuring the effects on students through our research. For example, we have extensively studied Peer Instruction (PI), and are heavily associated with PI in the CS education research community. PI is an active-learning pedagogy centered on student discussion of multiple-choice conceptual questions. Our PI materials are publicly available and being used by professors around the world; please see peerinstruction4cs.org for samples. In addition to course design, we researched how instructors should implement PI, student learning gains, the role of the instructor and peers, and student failure rates. We also both have practical experience designing and researching assessments, including a large team effort where we designed and validated a Concept Inventory for measuring student understanding of data structures (the Basic Data Structures Inventory). For this project, we have written the first book on the topic.

Open advice to proposers

As reviewers, we seek proposals that clearly articulate the problem and solution. Ensure your proposal demonstrates how your research in computing and technology aligns with our mission to create positive impact. Consider the following when crafting your proposal:

- **Clearly define the problem.** Good research starts with a compelling question.
- **Describe a specific, achievable outcome.** What will this research enable that wouldn't happen otherwise, and how? Outline both minimum expected and best-case scenarios, specifying the datasets and test cases you'll use.
- **Differentiate your contribution.** Clearly explain how your work advances the state of the art, using citations and other standard practices.
- **Outline your approach.** Explain your plan for addressing the research challenges, even if all answers aren't yet known. Identify potential risks and mitigation strategies.
- **Contextualize the work.** Describe existing funding and how this proposal fits into your broader research goals. How will this research be used? Will it build research capability, create a tool, reproduce a result, foster collaboration, follow up on an idea, or explore a new one? We are interested in all possibilities.
- **Make it accessible to non-experts.** While we try to have your proposal reviewed by a Google expert in your field, it will also be read by non-experts, so please ensure the motivation and outcomes are understandable to a broad audience.

FAQ

I need clarification on GARA's application guidelines or the questions themselves. Where should I go?

1. Please review the GARA FAQ page (located at the bottom of goo.gle/GARA)
2. If your question remains, email research-awards@google.com and a member of our team will be glad to help.

How can I withdraw my application?

1. Please email research-awards@google.com and a member of our team will be glad to help.