

Report of Summit on *Math Research in the Age of AI*

October 22–23, 2026

Introduction

Mathematics is a beautiful and powerful expression of the human spirit. It has also long provided effective tools for humanity's quest to describe, predict, and understand the world. Mathematics stands on its own as an object of inquiry, and it provides the foundation for science and technology. The increasing importance of mathematics, and its growth in view of AI developments, requires us to nurture a new generation that will learn, teach, expand, and shape the subject. By embracing new opportunities with creativity and ambition, mathematicians are best placed to shape the nature and directions of mathematical research in the age of AI. While transition to the new era requires careful navigation, the community must also maintain focus on the future.

With all of this in mind, the Harvard Center for Mathematical Sciences and Applications ([CMSA](#)) convened an intensive two-day summit *Math Research in the Age of AI*, held October 22–23, 2026. Thirty-two mathematicians from academia, government, and industry came together to help navigate this period of rapid change and, most importantly, to build the future. There were five working groups organized around the following themes:

- [Evaluation, production, and dissemination of research](#)
- [Coordinated actions for the AI era](#)
- [Open-source tools](#)
- [Formalization in mathematics](#)
- [Collaboration between academia and AI labs](#)

This report summarizes the findings. Portions of the recommendations, particularly those in the section on [evaluation, production, and dissemination of research](#), offer immediately actionable suggestions for review and hiring in mathematics departments. We encourage departments to act on those they can implement at this time and to begin longer-term conversations to rethink evaluation practices. We recognize that many of these changes may temporarily place greater burdens on faculty. These efforts are necessary to facilitate transitions to new norms for the field and are especially important in light of the need to support our students and young colleagues. Our recommendations go beyond academia; they impact government and industry as well.

A similar summit on [PhD Math Education in the Age of AI](#) was held in September 2026. Future summits may cover important topics not yet addressed, such as publication and undergraduate mathematics education.

The [summit website](#) contains links to useful resources. It also has a link to submit feedback.

Top recommendations

1. Mathematicians should reshape the profession as it adapts to the rise of new technologies. This will be achieved by sustained community collaborations supported by resources and coordination, and by recognition of the work involved.
2. Different types of scholarly work are valuable in mathematics. Their relative merits are evolving rapidly; incentive structures in academia must change accordingly.
3. Academia and funding agencies must prioritize training, funding, and empowerment of students and early-career mathematicians.
4. The community should build connected, curated mathematical repositories and expand publication formats to accommodate databases, interactive work, and exposition.
5. Formal proof should supplement existing mathematical practice, with subject experts guiding the construction and maintenance of reusable formal libraries.
6. Academia, industry, and government agencies should build sustained partnerships, guided by the mathematics community, to advance discovery, human understanding, and AI safety. Collaborations must center people, particularly trainees, and ensure that humans shape the future direction of mathematics and technology.
7. Mathematicians should foster large-scale collaborations by providing shared resources, by developing new ways to organize knowledge and track progress, and by crediting participation in such projects.
8. The mathematical community should reaffirm and update professional norms for the age of AI, emphasizing fairness, collegiality, attribution, and collaboration.
9. The mathematical community should maintain opportunities for contributions to the subject that do not depend on the use of AI tools.
10. Mathematicians should communicate the importance of mathematics to the general public, including offering opportunities for deeper engagement. This work should be recognized as contributing to the advancement of mathematics.

Evaluation, production, and dissemination of research

For decades, theorem production has been the principal measure of mathematical achievement, shaping hiring and promotion decisions. As the profession changes, this alone cannot capture the range of work that is required to advance mathematical understanding and to strengthen the mathematics community. We must accordingly broaden the contributions we recognize as meaningful and revise our systems of evaluation and reward. Preserving the values underlying our vibrant discipline requires updating our practices, culture, and incentives.

Evaluation and scholarly credit. As methods of producing and disseminating mathematics expand, the community must support and credit a wider range of activities that advance the discipline. We must value the expertise gained from independent proofs and meaningful partial progress, including when AI-generated work overlaps these contributions. Exposition that simplifies an argument or reveals new structure will be especially valuable in a time when the rate of mathematical production is increasing rapidly. The intellectual work of turning a verified AI-produced proof of a significant result into readable mathematics is an important contribution to the advancement of mathematical knowledge.

Evaluation must evolve to recognize more than research articles: crediting the acquisition of broad and deep mathematical knowledge, the opening of new research directions, the formulation of novel questions and conjectures, contributions to and maintenance of open- and crowd-sourced projects, the development of new modes of doing and organizing mathematics, the creation of resources that serve the community, technical expertise and work in formalization, participation in research problems at larger scale, the development of novel methods of using AI tools to advance mathematics, and community leadership.

The mathematics community will need to move away from its long-held practice of placing primary value on the first demonstration of a result, in particular in cases where the argument can be obtained from AI tools with relatively little work. What is valued and credited will need to evolve along with changing tools, but always under the principle of valuing what is needed to increase human understanding of mathematics. New expositions should cite previous expositions, but papers using a result should cite the reference(s) that will be most helpful to the reader.

Hiring and promotion. Deep mathematical expertise should remain central to hiring and promotion, but the variety of evidence of that expertise is expanding. The kinds of contributions described above must be explicitly recognized in hiring and promotion conversations and in rubrics, as well as being integrated into admissions decisions for graduate and postdoctoral programs. Job application materials should evolve to include new documents, perhaps including communication statements, explanatory videos, or evidence of engagement with mathematical exposition addressing different audiences. Recommendation letters should, likewise, recognize this broader range of contributions as a supplement to traditional assessment measures.

During this period of transition, departments may consider allowing research statements without any mention of future research plans.

Expanding beyond academia. Partnerships with government agencies, national laboratories, industry, and nonprofit research organizations foster scholarly contributions. Departments should support movement for faculty and students between academia and other sectors. Flexible leave policies and joint or practitioner appointments will facilitate this. Departments are also encouraged to seek partners with whom to develop internship pipelines, creating a more porous boundary between academia and other sectors. Additionally, we must reward mathematicians who can effectively communicate with funding agencies, lawmakers, and the public.

Dissemination and authorship. New ways of producing and sharing mathematics are expanding the discipline, opening directions that complement traditional scholarship. The work they make possible is just as rigorous, valuable, and deserving of credit as traditional research. Among these new platforms are repositories for AI-generated results, websites organized around collaborative projects, and venues dedicated to high-quality exposition, visualization, and distillation. At the same time, other forms of dissemination, from lectures and videos to blogs, interactive websites, and still-experimental formats, are playing an increasingly important role in advancing the field.

The meaning of authorship is evolving with novel methods of collaboration and dissemination. While there is no single template for authorship attribution, a potential model for larger groups follows practice in the lab sciences. Roles may be specified for participants, such as: investigation, analysis, validation, writing, review, editing, and funding acquisition. When roles are not clearly distinguished, authors should collectively understand a paper at a granular level

and take responsibility for its claims. Neither formal nor AI-based checking replaces this responsibility.

Mathematical science is best advanced when authors are able to give clear summaries of and answer technical questions about their work. These tasks are best accomplished when mathematicians prioritize the quality and depth of their work over maximizing their rate of scholarly production. Books and monographs, including textbooks and extended surveys, should become more valued in hiring and promotion.

Professional norms. The long-standing norms of the mathematical community, while imperfect, have supported collaboration, fair acknowledgment, and the open exchange of ideas. The use of AI makes it imperative to reaffirm and update these commitments and to give clear guidance where existing expectations no longer suffice.

Using AI to exploit a colleague's unreleased ideas is not acceptable. When groups discover substantial overlap, they should consider collaboration and attribution; rushing results to claim priority must be actively disincentivized.

Questions arising in a lecture should be directed to the speaker before querying an AI model. Collegiality and careful judgment must accompany legitimate mathematical scrutiny. Open discussion, sharing of work in progress, and fair attribution remain central.

AI tools will expose errors in the literature. The significance of each error must be established before conclusions are drawn: a local mistake and a gap that undermines a paper's main argument merit different responses. Traditional norms, such as contacting the author when an error is discovered, still apply.

Responsibilities across career stages. The consequences of the changes arising from new technologies, and the responsibilities they bring, differ sharply across career stages. Graduate students and early-career colleagues face both the greatest opportunities and the greatest uncertainties. Established mathematicians must actively protect developing researchers so that junior colleagues do not disproportionately bear the brunt of the uncertainty of these times.

AI choice. The community must respect the choice of mathematicians who do not use AI. Standards should be clear enough to guide career decisions and flexible enough to recognize the many different ways of contributing to mathematics.

Methodologies section. We can only sustain trust through candid communication. Papers should include a methodologies section akin to current practice in the lab sciences, with the title deliberately chosen to reflect a wide variety of practices. A meaningful methodologies section documents the nature and extent of AI contributions, as well as those of the human authors. Such a statement complements human responsibility and does not replace it. Professional organizations and publishers should develop clear guidance regarding AI usage and acknowledgment for authors, referees, and evaluators, recognizing that these are living documents meant to be updated.

Coordinated actions for the AI era

Mathematicians must shape how AI changes the field, and with new technologies there are numerous exciting opportunities to expand what we can discover, communicate, and compute. As mathematical output grows and some research becomes more dependent on tools and

computation, the community requires new ways to organize knowledge, collaborate, and share results.

Mathematicians must lead these new developments. A critical mass of mathematicians is needed to develop and bring new opportunities to the community. The speed of the transition requires that such leadership be a priority, and this work should be valued as a significant academic contribution. For some especially large initiatives that aim to impact a broad swath of the mathematics community, financial support or structural accommodations may be needed for mathematicians to organize such initiatives. This support should come from universities, granting agencies, or philanthropy, depending on the best fit for any particular initiative.

Develop new models for large collaborations. In addition to traditional forms of collaboration, we envision other ways to make use of modern technologies via large-scale collaborations. We encourage mathematicians to develop new structures that gather teams with diverse backgrounds and skills to pursue ambitious goals that may now be achievable. These structures should include entry points for students and people new to the field. Some large collaborations may involve interdisciplinary work with other sciences. Institutes and funding agencies are encouraged to support such efforts by providing computing resources, physical meeting space, administrators, and sustained maintenance. Large collaborations will need to establish new ways of awarding credit for contributions.

Organize mathematical knowledge in novel ways. We should create new ways to collect, organize, and curate collections of theorems, conjectures, examples, counterexamples, and experiments, including verification status, reusable code, and searchable interfaces. This makes growing mathematical output navigable and helps people (and AI systems) locate relevant material. Examples already exist, including the [Erdős Problems Collection](#), the [Bourgain Project](#), the [L-functions and modular forms database \(LMFDB\)](#), and [Beyond \$n \log n\$](#) . AI tools allow such collections to be developed at a much larger scale, and we encourage experimentation with new approaches.

Reimagine publication. The journal ecosystem must be revised to accommodate many new products of mathematics, including surveys, software reviews, databases, interactive articles, and animated visualizations. New venues may distinguish dissemination from validation, preserve version histories, and indicate review status for claims. Some new venues have been created recently, including [Hexagon](#), a repository for AI-assisted and AI-generated mathematics, and [Palomar](#), a registry for Lean verification.

Develop norms. Professional societies, journals, and funders are encouraged to develop, document, and disseminate norms for attribution, methodologies sections, and responsibility for correctness. For example, the [Leiden Declaration](#) provides an existing basis for discussion of community norms and values, and above we suggest new norms for evaluation. These first steps need to be extended to review panels, referee reports, and hiring committees.

Engage the wider public in mathematical discovery. The public interest in AI is an opportunity for mathematics. Projects such as the [Polymath projects](#), the [Equational Theories Project](#), and the [Inverse Galois Problem contest](#) offer opportunities for public participation in research and communicate the power, applicability, and beauty of mathematics. Open challenges should be paired with accessible explanations, moderated discussions, entry points for new participants, and visual demonstrations.

Develop new funding opportunities. Mathematical research has been supported by the public, through federal agencies, and by private foundations. With shifting priorities of research

agencies, and new possibilities for advancing mathematics by incorporating technology, there is a fundamental need to clearly articulate the case for human understanding of mathematics, reassess mathematics research priorities, and identify new funding opportunities from both current and new sources.

Broaden access to new tools. Compared with other scientific disciplines, mathematics has historically had relatively low entry barriers, and novel ideas have come from people with a wide array of backgrounds. A transformation where access to computing resources gates the ability to contribute to mathematical research fundamentally threatens the ability of broad swaths of the community to make independent contributions to the subject. Mathematicians should ensure that access to tools that enable research is broadly distributed among the mathematicians who can effectively use them to expand our understanding of the subject.

Communicate mathematics to the public. Mathematical communication has historically been dominated by explaining the stories behind new proofs of old conjectures. A new approach is emerging, exemplified by channels such as [3Blue1Brown](#) and [Numberphile](#). The public's attention on mathematics and AI presents an opportunity to expand public understanding of mathematics as a discipline shaped by the discovery of new and unexpected phenomena, as well as the aesthetic sense of beauty that motivates the research.

Many more imaginative new efforts will be needed. We need new ways for the mathematics community to communicate, as we see on [Proofs and Prompts](#) and [Terry Tao's blog](#). We need ways to keep the community informed about what AI can do and how to best use it, such as [First Proof's](#) expert assessment of research-level AI outputs, and [ICARM's Tutorials](#) on formalization and LLMs. While the ideas listed in this document suggest exciting new opportunities, we expect that this is only the beginning and believe that the field can be reimaged by students and junior mathematicians. The community must value and reward the novel contributions that propel mathematical understanding forward.

Open-source tools

AI has become a powerful tool for advancing mathematics. This raises the question of how the mathematical community can best participate in the creation and ownership of the tools that are transforming our field, since new tools enable new ways of doing and sharing mathematics.

Reimagining ways to share and advance mathematics

In addition to accelerating the production of mathematics, AI has enabled the organic creation of new modes of dissemination, collaboration, and experimentation. As the mathematics ecosystem moves through this period of transition, new tools will help us both navigate the changes and adapt to the new equilibrium that emerges. Examples appear in the paragraphs [Organize mathematical knowledge in novel ways](#) and [Reimagine publication](#) above.

Coding agents make it feasible to build customized tools tailored to a particular problem or problem area at very low cost. Examples include new forms of presentation, as in [A Presentation of the Absolute Galois Group of \$\mathbb{Q}_2\$](#) and [Constructing Noncircular Schiffer Domains](#). Mathematicians working in computationally accessible fields can now “build their own lab” and create visualizations like [Gross / Lattice](#) and the [Tau Ceti Atlas](#). For perhaps the first time in history, building such tools requires very little technical skill, though mathematical skill and judgment are essential.

Some concrete recommendations:

- Websites should include an “about” section explaining who created and maintains the site, what its goals are, and how uploaded data will be used.
- License terms should be clearly stated and easy to find. Creators may wish to weigh [MIT/Apache/CC0](#)-style licenses, which maximize flexibility, against [GPL/Mozilla/CC-BY-SA](#)-style licenses, which impose constraints but support community norms. Either way, it is essential to choose and display a license.
- We encourage the development of more resources and tutorials, especially in-person activities dedicated to onboarding mathematicians interested in using AI tools, such as [ICARM](#)’s resources and events, or an updated version of [Using AI as a mathematician in academia](#).
- Community coordination to improve the visibility of newly created resources and avoid unproductive competition would be useful, possibly via an analog of [mathmeetings.net](#), which solves a similar coordination problem for workshops and conferences.

Open models for mathematics

For the purpose of this discussion, an **open-source tool** is a collection of programs and data that includes the source code used to create it, released under a license that allows anyone to use, modify, and redistribute it, possibly with an open-source requirement for modifications. Examples familiar to mathematicians include [SageMath](#), [Lean](#), and [Mathlib](#). An **open-weight model** is a [large language model](#) whose parameters (weights) are publicly available. This allows users to run the model on hardware they control. An **open-source model** also includes source code used for training and inference, along with a catalog of the training data (and, ideally, the training data itself).

The mathematical community faces the question of whether and how to support the development of open-source models. Such models are not yet capable of research-level mathematics; their capabilities lag those of open-weight models, which in turn lag those of closed-weight models. Research-capable open models could be more trustworthy assistants and producers of mathematical research, while providing valuable testing grounds for model research via a replicable pipeline. In order to be successful, an effort needs to aim at building the infrastructure and resources necessary to support such an enterprise over the long term. This is a significant challenge, and there have been several unsuccessful efforts to build open models in the broader academic community. Another fundamental challenge is balancing openness against safety concerns. In particular, any effort towards open models should begin with awareness of the regulatory environment constraining the development and release of large language models, especially regulations surrounding safety concerns and cyber capabilities. Mathematically focused AI safety institutes are potential partners in this regard.

An important benefit of open models is reducing the dependency of the mathematical community on a handful of frontier labs. This dependency places important decisions in the hands of corporations whose interest in mathematics is incidental, and potentially temporary, while placing data generated by mathematicians interacting with the models outside their control. Open models are unlikely, however, to resolve issues of access to frontier models: any open-weight model with capabilities that are potentially useful to mathematics research would need to run on large GPU clusters, whose cost academics could not bear without substantial financial support.

A fundamental design decision is whether to pursue an open-source model in the style of the [Marin project](#), or to leverage open-weight models built outside the mathematics community (whose training data is not available) in the style of [OpenMath OS](#). A fully open process would enable studies to understand how choices in data curation and training affect model performance, but may be in tension with the goal of near-frontier performance, which might require data sources whose licensing terms preclude open release.

Given the challenges related to data licensing, regulatory constraints, safety concerns, and financial costs, we believe that a fully open-source model designed and built by the mathematical community is unlikely to simultaneously meet the goals of access, transparency, and research capability. We recommend that those seeking to develop such models identify partners with compatible goals and values, including safety institutes, who would focus on training the models and addressing regulatory issues, while mathematicians apply their expertise where it would be most valuable, such as identifying pipelines for data generation and tasks for reinforcement learning.

Formalization in mathematics

Computational proof assistants let users write mathematics in precise languages, like programming languages, so that the system can check a proof's correctness against the rules of a trusted formal foundation. The proof assistant most commonly used by mathematicians today is *Lean*, and its general mathematics library, Mathlib, currently has about 2.5 million lines of formal proofs, contributed by nearly 800 people. Several other proof assistants are also available, some built on alternative mathematical foundations.

Formalization is not intended to replace the ordinary mathematical literature, but to supplement it. Once a statement is suitably formalized, a formal proof guarantees its correctness. Moreover, digitizing mathematics and representing it formally offer several benefits, supporting new ways to curate, communicate, and disseminate mathematical knowledge, which facilitates new methods of exploration, teaching, and collaboration. A formal ecosystem comprises several useful technologies, including proof checkers, collaboration tools, search engines, and automated reasoning tools.

Until recently, most contemporary mathematics was out of reach of formalization, in two senses: existing formal libraries did not contain the background needed to formalize the arguments in contemporary publications, and, even in the cases where the relevant formal background was readily available, the expertise and effort needed to carry out the formalization were prohibitive. AI has changed the situation very quickly and dramatically. In September, an Anthropic agent produced a [formally verified proof of Fermat's Last Theorem](#) in 11 days, generating 13 million lines of code that proved 29,500 intermediate theorems. A few days later, when [OpenAI announced a solution to the Navier–Stokes problem](#), it released an informal proof alongside a formally checked version in Lean. Proof assistants can verify arguments whether they are written by humans or AI; long AI-assisted proofs are one prominent example where this verification is especially valuable.

The ability of AI to write formal proofs has improved to the point that it is now reasonable to expect that most existing mathematics will be formalized within the next few years. We emphasize that some mathematical developments, when first presented, are exploratory sketches and not ready for formalization. Calls to formalize all of mathematics are not intended to deny the value or importance of such research; they should be interpreted, instead, as calls

to formalize those parts of mathematics for which formalization is valuable and appropriate. This process must be guided by subject area experts to ensure that the resulting codebase can be reused for further advances, as done in [Tau Ceti](#) and [Formal Frontier](#). Currently, substantial expertise in technical aspects of formalization is concentrated in students and early-career researchers, and we need to leverage their skills.

Making the most of formal libraries and technology will require the mathematics community to develop expertise and infrastructure. We therefore make the following recommendations:

- Mathematical educators should integrate formal proof into the undergraduate mathematics curriculum using pedagogically focused tools that let students interact with a basic proof assistant while writing natural-language proofs. The focus should be on familiarizing students with the formal structure of statements and proofs, rather than on the syntactic details of any particular proof assistant. Working with a proof assistant will, at the same time, help students understand the nature and structure of ordinary mathematical proofs.
- Mathematicians at all career stages should develop basic literacy in computer formalization and understand what it takes to verify and validate a formal proof. *Verifying* a formal proof requires checking that each step follows from the axioms and rules of a trusted formal foundation, something a computational proof checker can do. *Validation* requires checking that the proof's formal conclusion accurately represents the intended mathematical claim. This, in turn, requires that the formal definitions the theorem depends on accurately reflect the intended mathematical objects and concepts, which is fundamentally up to mathematicians to decide. The mathematical community should develop standards and procedures to verify this correspondence, known as *semantic alignment*.
- Specialists in the relevant mathematical domains must participate in the development of any formal library to ensure that it is useful to the discipline. They must come together to decide on canonical presentations of the subject matter, guide AI in formalization, and assess the efficacy of the definitions and theorems by using them to formalize further results. Maintaining a good library requires constant revision and improvement as mathematical understanding evolves. Mathematics research institutes can play a key role in bringing communities together to develop formal libraries and tools.
- When sufficient formal libraries are in place, journals should consider encouraging authors to accompany submissions with formalization. This can speed up the refereeing process and provide readers with additional information and resources. Doing so requires journal editors to have the skills to assess the formal component and the journal to have a mechanism to archive the formal proof artifacts. Note that formalization is much more challenging without AI, so any requirement of formal verification will disadvantage authors who do not wish to use AI.
- Successful deployment and ongoing use of formal methods require pockets of deep mathematical expertise to guide community efforts and develop and improve tools and technologies. Such work must be recognized as an important mathematical contribution and valued as such in hiring, promotion, and tenure. Moreover, maintaining formal libraries and infrastructure requires continued effort from researchers, as well as material resources. The mathematics community should develop mechanisms to support these.

Collaboration between academia and AI labs

This working group explored both the current status and the future trajectory of research collaboration between the AI industry and the mathematics community. The group included members from academia, mathematics institutes, AI companies, and government agencies.

At a fundamental level, a deep connection is already in place. AI systems are, at heart, mathematical models, and mathematical principles govern every stage of their design and training. Today, frontier models increasingly rely on and actively seek deep, open mathematical questions as a way to benchmark performance and also as the essential training ground to develop genuine reasoning capabilities. As these systems begin to contribute back to mathematical discovery, there is an opportunity to elevate this synergy into an active, intentional partnership in which AI labs and mathematics practitioners propel each other forward, delivering breakthroughs in foundational science, creating safer systems, and providing lasting value for society.

People must remain at the center of this partnership. For these collaborations to truly deepen human understanding, there must be a foundational commitment to train young mathematicians. Into the foreseeable future, experienced humans are needed to ask the new questions that matter to us, to ensure that humanity is an active architect and interpreter of knowledge, and to shape the future direction of mathematics and technology.

Realizing a vision that genuinely benefits academia, industry, and all of society requires sustained, intentional effort. To guide this effort and to ensure that rapid technological advances remain grounded in solid scientific values and are directed toward the betterment of humanity, this group outlined a concrete set of recommendations and highlighted a collection of positive steps already underway.

- Training and funding the next generation of mathematicians is a priority. It represents the most important investment industry and academia can make for the future of mathematics and its applications.
- The topic of AI safety is a priority for society and a vital area of collaboration between the AI industry, government agencies, and the mathematical community.
- We encourage the mathematics community and AI labs to explore new pathways of collaboration. Beyond solving well-formulated, established problems, mathematics grows through the process of asking new questions and conceptualizing new structures. Academic mathematicians and scientists in industry can develop techniques to harness the remarkable capabilities of AI tools for these forms of mathematical creativity. Together we can also learn how to accelerate applications of mathematics to science and technology.
- There is value in AI labs sharing the step-by-step reasoning processes behind their solved problems whenever possible. This transparency allows the mathematical community to identify the underlying patterns and problem-solving strategies used by machines. We suspect that models sometimes take routes that contain deep insights. Therein lies a possible road to increased mathematical understanding and engagement with new problems and research directions.
- There is an opportunity for the mathematical community and AI companies to work together to develop tools that help the mathematical profession in many ways beyond problem solving. These include developing the next generation of tools for discovery, visualization, dissemination, presentation, and communication of science.

- We anticipate many future interactions of the academic community with the AI industry and government agencies. For the purpose of these interactions, we recommend the formation of several mathematical advisory boards, with different focuses, and with broad representation from many types of institutions and worldwide geographic locations.

There are already positive initiatives underway that serve as initial models for these recommendations. We list some of them:

- Initiatives like the [Anthropic Fellows Program](#), [OpenAI safety fellowships](#), and Google DeepMind's [educational program](#) that provide academic fellowships and scholarships, including Google's partnership with the African Institute for Mathematical Sciences to support postgraduate programs.
- Independent research organizations that connect mathematicians, theoretical computer scientists, and industry partners to build the theoretical foundations of AI and work toward improving AI system safety. Prominent examples include the Foundation for Science and AI Research ([SAIR](#)), the Mathematical AI Safety Institute ([MAISI](#)), the Institute for Responsible Superintelligence ([RESI](#)), the Alignment Research Center ([ARC](#)), and [Resolution](#).
- [Pledges from major AI developers](#) to dedicate significant corporate equity toward the public good. These vehicles offer a promising avenue for funding long-term, foundational research at the intersection of mathematics, science, and society and for supporting the talent pipeline.
- The Advisory Group on Mathematics and Artificial Intelligence ([AGMAI](#)) collects input from mathematicians, talks to AI labs, and publishes recommendations on the responsible presentation and release of mathematical results from AI labs.
- [New initiatives](#) by the Simons Foundation, OpenAI, and Anthropic to help the mathematics community navigate the rapid rise of artificial intelligence in the field.

These examples of early initiatives show the potential for strong outcomes when AI labs, academia, and government align their efforts, but they are only a starting point. Scaling these partnerships will require sustained commitment and bold coordination, allowing mathematical insight and artificial intelligence to jointly expand the boundaries of human knowledge.

Participants in the Summit

This report comes out of the work of summit participants in five working groups. The views expressed in this report represent consensus but are not necessarily unanimously held. The summit participants are mathematicians in academia, government, and industry.

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