Columbia Center of Artificial Intelligence Technology
in collaboration with Amazon

Call for Proposals & Fellowship Nomination

> *The mission of the Center is to better society through the development and adoption of advanced AI technology, contributing to a more secure, connected, creative, sustainable, healthy, and equitable humanity.*

[Center Website]

Advancing the state of the art in AI is one of the top priorities for industry, academia, and government. AI has also emerged as a foundational area crosscutting every thematic dimension of our engineering endeavor - sustainability, health, security, communication, and creativity. Columbia's School of Engineering and Applied Science (SEAS), guided by its *Engineering for Humanity* vision, has been at the forefront of leading advancements in AI. More than 70 faculty members encompassing every department in SEAS collaborate with many partners across the university and beyond to engineer important breakthroughs.

Amazon has made significant investments in AI, developing cutting-edge technologies to address the opportunities and challenges across a broad spectrum of applications and customer needs. Amazon and Columbia have had productive collaborations through successful research awards and the participation of several Columbia faculty members in the Amazon Scholars program. With the launch of the Center of AI Technology, Columbia Engineering and Amazon further aim to advance research and technology development, knowledge discovery, and talent training to achieve beneficial societal impact. This partnership will also benefit from and contribute to the vibrant and rapidly expanding AI tech ecosystem in New York City.

Program Goal & Topics

The Center brings together a community of faculty, students, researchers, and practitioners to harness the potential of artificial intelligence (AI) for the development of advanced technologies to better society. The Center supports

this goal through the distribution of research grants and Ph.D. student fellowships.

The call invites proposals & doctoral student fellowship nominations that explore topics aligned with the mission & research focus of the Center.

Research Focus Areas:

- Foundations of AI and Machine Learning
- Conversational AI/Natural Language Processing
- Multisensory Multimodal AI
- Fairness, Explainability, and Accountability in AI
- AI for Human-Agent and Human-Robot Interaction
- AI for Information Security
- Cloud and Computing Systems for AI
- Computer Vision
- Robotics
- Operations Research and Optimization
- Search and Information Retrieval
- Information and Knowledge Management
- Sustainability

Funding and Obligations

Research Awards:
There are two types of funding mechanisms associated with the call for proposals. One is a Sponsored Research Project (SRP), which may involve direct collaboration with an Amazon researcher. The other mechanism is a Gift-Funded Research Project (GFRP) in which the research is exploratory, and in which an Amazon collaborator has not been identified before the start of the research project.

The Center will support up to 3 SRPs and 1-3 GFRPs annually. Columbia faculty members, from all departments in SEAS and other Columbia schools, will be eligible to submit proposals. Collaborations led by Columbia faculty involving faculty from other universities and institutions in the greater New York City metropolitan area are welcome.

Funding amount:
    up to $150,000 for each SRP (including 35% indirect costs)
    up to $105,000 for each GFRP (no indirect costs)

License Provision for Funded Projects: All the software and copyrightable material created in the performance of the projects funded as an SRP or GFRP must be made publicly available, either by publication or by open source license or open copyright license. Unless otherwise agreed upon, Columbia will grant a license for patents (if any) filed for inventions developed under the support of an SRP to Amazon, which will be worldwide, perpetual, irrevocable, non-exclusive, and non-transferable. Patents for technologies developed through a GFRP award will not be subject to the above-stated license provision. A discussion with [CTV](#) before submission would be prudent and is highly encouraged.

Eligibility for Research Awards: Columbia faculty members, from all departments in SEAS and other Columbia schools, will be eligible to submit proposals. Collaborations led by Columbia faculty involving faculty from other universities and institutions in the greater New York City metropolitan area are welcome.

Faculty who are Amazon Scholars can submit proposals to the Center, but they need to follow the standard university Conflict of Interest (COI) policy and process. They will need to update their COI form on RASCAL, ensure a clear separation between their work at Amazon and their current or proposed research on campus, and meet requirements from the Conflict of Interest Committee. They are encouraged to consult with Naomi Schrag <ns2333@columbia.edu> early in advance of proposal submission.

Amazon Ph.D. Fellowship Program:
Nominations for fellowships should be made by Columbia faculty. Students must be enrolled at the Fu Foundation School of Engineering and Applied Science, in good standing, and have exhibited outstanding academic performance to be eligible for the Amazon Fellows Program.

Two fellowships will be awarded each year. The fellowships will provide each doctoral graduate student with up to 2 years of funding to use for tuition and a stipend to initiate independent research projects. In addition, the Fellows will have an opportunity to interview for a summer internship at Amazon, gaining valuable industry insights and experience through direct engagement with Amazon researchers. As a condition of funding, the Amazon Fellows will be

required to submit a 6-month and a 12-month progress report. Eligibility for continued funding for a second year will be based on progress and the justification of needs for ongoing fellowship support.

Proposal Process

The deadline for submission of Research Proposals and Doctoral Student Nominations is ~~October 23, 2020, by 4:00 pm ET~~ **DEADLINE HAS BEEN EXTENDED TO OCTOBER 30, 2020 BY 4:00PM ET**. We will not accept incomplete or late submissions. We anticipate notifying award recipients by November 20, 2020.

Please submit the following materials via email, in .doc, .xlsx, or .pdf format, to CAIT-info@columbia.edu

Research Proposals
- Proposal Cover Page (*template provided*)
- Project Proposal (5-page maximum, single-spaced, 12-font, Times New Roman)
- Budget in Excel (*template provided*) with budget justification. For Sponsored Research Projects, funds will be awarded as an Industry Grant (PG Project) with 35% indirect cost to be included in your budget.
- CV's for Faculty/Collaborators (*2 page NSF style format*)

Please note: Proposals submitted to [Amazon Research Awards](#) (ARA) annual program should be noted to indicate concurrent submissions. Proposals will not be selected for funding from both sources.

Doctoral Student Fellowship Nomination
- Nomination Cover Page (template provided)
- Student's current resume/CV, with education history, awards, publications, and links to portfolio
- Personal Statement (2 pages, 1000-word maximum, including a brief description of research interests)
- One Letter of Recommendation from a faculty member

Please note: Students must be enrolled at the Fu Foundation School of Engineering and Applied Science, in good standing, and have exhibited

outstanding academic performance to be eligible for the Amazon PhD Fellowship Program. Nominations for fellowships should be made by faculty.

The funding proposals and fellowship nominations will be reviewed by the Center's Advisory Group, a committee consisting of researchers drawn from relevant Departments of the School of Engineering and Applied Science (SEAS) and of Schools across Columbia University, and from Amazon. The Center Director will make all final recommendations for the Research Projects and Student Fellowships, taking into consideration Columbia's academic mission, the mission and strategic vision of the Research Center, and the recommendations from the Advisory Group. The Dean and the Center Liaison will jointly select three of the proposals to fund as Sponsored Research Projects, considering the recommendations from the Center Director. The Dean will select up to three additional proposals to fund as Gift-Funded Research Projects and will be responsible for making the final decision on the PhD Fellowships.

Review Criteria

All research projects and fellowships must be relevant to the Center's research focus areas , and the proposers should select the areas closest to their proposal in the section on Program Goals. The following criteria will be used in ranking and selecting submissions for research funding:

1. What is the potential for the proposed activity to
   a. Advance knowledge and understanding within its own field or across different fields (Intellectual Merit); and
   b. Benefit society or advance desired societal outcomes (Broader Impacts)?
2. To what extent do the proposed activities suggest and explore creative, original, or potentially transformative concepts?
3. Is the plan for carrying out the proposed activities, well-reasoned, well-organized, and based on a sound rationale? Does the project incorporate a mechanism to assess success?
4. How well qualified is the individual or team to conduct the proposed activities?
5. Are there adequate resources available to the PI (either at Columbia or through collaborations) to carry out the proposed activities?

Questions?
If you need more information, please visit the Center Website
(https://cait.engineering.columbia.edu)

or contact
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