<u>**Amazon - Virginia Tech Initiative for Efficient and Robust Machine Learning Research Proposals**</u>
<u>**Frequently Asked Questions**</u>

Q: What is the Amazon - Virginia Initiative?
A: A partnership to advance research and innovation in artificial intelligence and machine learning. The [Amazon - Virginia Tech Initiative for Efficient and Robust Machine Learning](#) supports machine learning-focused research projects, doctoral student fellowships, community outreach, and an establishment of a shared advisory board.

Q: Where is the program located?
A: The initiative is housed in the [College of Engineering](#) and led by [Sanghani Center for Artificial Intelligence and Data Analytics](#) researchers on Virginia Tech's campuses in Blacksburg, Virginia and at the Innovation Campus, in Alexandria, Virginia.

Q: How can faculty get involved?
A: As part of the initiative, Virginia Tech faculty members will be invited to submit machine learning sponsored research projects for Amazon that work to revolutionize the way the world uses and understands this field of modern technology. Research project proposals may include support for students and staff. The initiative began accepting (and awarding) proposals from Virginia Tech faculty in the College of Engineering for research projects with support beginning Fall Semester 2026 (FY 2027).

Q: Who can submit a proposal?
A: The Amazon-Virginia Tech Initiative invites full-time tenure-track, research-track and teaching faculty members at Virginia Tech from the College of Engineering and faculty from the Department of Statistics and Department of Mathematics in the College of Science to submit proposals. Please refer to the Call for Proposals for more details.

Q: What are the research topics of interest?
A: The topics of interest for this year's round of proposal submissions include (but not limited to):

About this CFP:
Amazon-Virginia Tech Initiative is a partnership between VT and Amazon dedicated to bridging academic and industry research in artificial intelligence. With support from Amazon, the Initiative annually funds multiple research projects and doctoral fellowships. We invite proposals that take innovative approaches to a broad range of artificial intelligence topics. 2026-2027 proposals should advance research in one or more of the following topic areas of interest.

Topics of Interest
Proposers will select primary and secondary categories in the application process (e.g. Responsible Generative AI).

- **Foundation Model Improvements**
  - Novel model architectures
  - Novel training algorithms and methodologies
  - Multi-modal (e.g., text, image, video, audio) understanding and generation
  - Multi-lingual understanding and generation
  - Algorithms and workflows for acquiring and curating high-quality and diverse datasets for training
  - Continual learning
  - RL Methodologies including verifiable and unverifiable rewards \
- **Foundation Model/Agentic Evaluation**
  - Creation of new benchmarks for assessing foundation model capabilities

- ○ Methodologies for robust evaluation of generative AI systems, including agents
- **Efficient Generative AI & Efficient Inference**
  - ○ Efficient training and inference for cloud and on-device applications
  - ○ Compute and memory efficient handling of multi-modal long/infinite context
  - ○ Improving efficiency of models, including diffusion models
  - ○ Novel and efficient approaches for inference-time scaling
  - ○ Novel methods for accelerating LLM inference (speculative sampling and beyond)
- **Reasoning**
  - ○ Commonsense and domain-specific (e.g., math, coding) reasoning
  - ○ Temporal and spatial reasoning
  - ○ Reasoning for planning
- **Knowledge Grounding**
  - ○ Approaches to ground (multi-modal) generation on up-to-date world, domain-specific, enterprise, or personal knowledge
  - ○ Memory-augmented generative AI systems
  - ○ Efficient and accurate multimodal retrieval across heterogeneous sources (Knowledge Graphs, People Graphs, Databases, Web Content, Local Search)
  - ○ Blending and fusion of multiple knowledge sources for effective grounding
  - ○ Improved interaction between LLMs and external knowledge sources
- **Agentic AI**
  - ○ Creation of autonomous systems capable of performing tasks, making decisions, and interacting with their environments and humans
  - ○ Informal reasoning
  - ○ Low-code/no-code for business agentic applications
  - ○ Multi-Agent systems and agent orchestration framework improvements
  - ○ Customization and continual improvement of agents post deployment
  - ○ Agent-Environment Simulation Research and world models
  - ○ Internationalizing agentic systems
  - ○ Agentic AI applications including Agentic Coding, Deep Research Agents, and Cybersecurity
- **Personalization**
  - ○ System-level personalization
  - ○ Personalization of dialog-based applications
  - ○ Prompt-based personalization of large language models
  - ○ Personalized retrieval and ranking for RAG-LLM systems
- **Responsible Generative AI**
  - ○ Red teaming (e.g., advanced approaches; for multi-modal models)
  - ○ Improvement of foundation model RAI performance (e.g., robustness to jailbreaking and membership inference attacks; watermarking approaches; deepfake detection)
  - ○ Responsible agentic AI (e.g., robustness of multi-agent systems; adherence to guardrails)
  - ○ Measurement and alignment against frontier risks (e.g., scheming, deception, AI autonomy)
  - ○ International/cultural alignment
- **AI Accelerated Science and Engineering Innovation**
  - ○ Systems that leverage Generative AI for advancing science and technology in areas such as physics, mathematics, chemistry, biology, hardware design, materials science, engineering, economics, healthcare, climate

Q: Will proposals outside of the research topics of interest be considered?

A: Yes. While the above topics are particularly of interest, highly meritorious proposals in other areas of ML and AI will also be considered.

Q: How will proposals be selected?
A: Proposals will be evaluated by a collaborative advisory board composed of Virginia Tech faculty and Amazon researchers for their technical merits, potential to advance research in areas of ML, and opportunity for impact.

Q: What is the funding amount for the research projects?
A: Projects will typically be funded at a range of $50 - $100K direct costs, depending on the project scope and nature of funding. If a project is pursued as Sponsored Research, the [Amazon-VT Initiative] Advisory Board will discuss this adjustment in conjunction with the proposer, and ensure that applicable indirect costs are covered for awarded projects. Sponsored Research Project recipients will not be asked to reduce their budgets to accommodate indirect costs.

Q: What does the project funding support?
A: Proposals may request funding for undergraduate students, graduate students, post-doctoral research associates, faculty, travel, equipment, and/or other expenses as deemed necessary for the successful execution of the project.

Q: Can faculty submit more than one abstract/proposal?
A: Yes, faculty members can submit multiple abstracts or proposals.

Q: When is the deadline?
A: Timeline:
- **February 24, 2026:** Call for abstracts open. Please apply through the portal following the instructions below.
- **March 17, 2026:** Abstract proposal submissions are due. Interested faculty complete this application form and upload/submit a 1-page abstract. This abstract should be an overview of a research project idea, one-page maximum, excluding references. This step is required to be invited to submit a full proposal.
- **April 6, 2026**: Invitations to submit full proposals. Amazon will review abstracts and provide responses by April 6th. Amazon will invite a subset of the Abstract proposers to submit a full proposal.
- **April 13-24:** Amazon will host optional research discussion/feedback sessions. This exchange is designed to serve as a matchmaking exercise, enabling the development of well-focused full proposals that are aligned with the interests of both the PI and Amazon.
- **April 27, 2026:** Full proposal submissions are due. Full proposal details and process will be shared on April 6th. PIs can expect proposals to be 3-4 pages plus references.
- **June 30, 2026:** Proposal acceptance notification. All PIs will be notified by or before this date.
- **August/September 2026:** Projects begin. We anticipate that the majority of funded projects would begin in Fall and run for one year.

Q: What is the proposal submission process?
A: The proposal submission process has two stages:
1. **Abstract:** Interested VT faculty submit a **1 page maximum overview** (excluding references) of a potential full proposal. The purpose of these abstracts is for Amazon to review and provide feedback on the proposal. Criteria at this stage include: interest in collaboration with the researcher, alignment with Amazon objectives, and the use cases the project can support. Feedback will help guide the faculty member towards submitting a more relevant proposal or a more impactful proposal (unless the abstract already draws strong interest from us).
2. **Full Proposal:** Full proposal details and process will be shared on April 6th. PIs can expect proposals to be 3-4 pages plus references.

Q: How do you submit the abstract?

A: Instructions for Applying: Amazon now uses a dedicated proposal management portal for all submissions. To submit your research abstract proposal:

1. **Register:** Complete the user registration form at
   https://home.academic-research-portal.amazon.science/login
2. **Set Up Your Profile:** Select your Institution and choose "Faculty" or "Research Scientist" as your Professional Role to access open Calls for Proposals (CFPs)
3. **Submit:** Click "Submit New Proposal" in the top banner and select your target CFP
4. **Review Requirements:** Carefully read the submission requirements, instructions, and deadlines
5. **Prepare Materials:** Complete the abstract details form and upload your maximum 1-page abstract

Q: How do you submit the proposal?

A: Full proposal details and submission process will be shared on April 6th.

If you have any additional questions about the Amazon - Virginia Tech Initiative for Efficient and Robust Machine Learning or the abstract/proposal submission process, email Wanawsha Shalaby, Program Manager of the Amazon-VT Initiative at amazon-vt@cs.vt.edu. Questions can also be directed to Shante Burrell shburr@amazon.com