

Amazon - Virginia Tech Initiative for Efficient and Robust Machine Learning Research Proposals - FAQ

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 will be soliciting proposals from Virginia Tech faculty in the College of Engineering for research projects with anticipated support beginning Fall Semester 2022 (FY 2023).

Q: Who can submit a proposal?

A: The Amazon-Virginia Tech Initiative invites Virginia Tech faculty 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 Proposal 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):

- Federated learning: models, algorithms, applications
- Information veracity: approaches to measure information truthfulness and use in applications like fact verification
- Updatable Machine Learning: algorithms to update ML models post-deployment
- Improving memory footprints of ML models for use in resource-constrained environments
- NLP on the edge: lightweight inference and learning with assurances
- Machine Learning Risk Assessment: Quantifying and characterizing risks due to stability, drift, uncertainty, interpretability, lack of recourse, and adversaries
- New systems programming abstractions for cloud ML and edge ML

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: Project funding is expected to be in the range of \$50K - \$100K. Proposals selected for funding will be awarded either as gifts or sponsored awards (will be decided based on project goals and objectives). The initiative reserves the right to negotiate awards to fulfill overall program goals.

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 proposal?

A: A faculty member can submit multiple proposals but can only serve as a PI on at most one proposal to this solicitation (and Co-PI on others).

Q: How do you submit the proposal?

A: Proposal submissions should be sent in one file via PDF to Wanawsha Shalaby, Manager of Operations at the Sanghani Center, wanah92@vt.edu.

If you have any additional questions about the Amazon - Virginia Tech Initiative for Efficient and Robust Machine Learning or the proposal submission process, please reach out to Wanawsha Shalaby, Manager of Operations at the Sanghani Center, wanah92@vt.edu.

Amazon - Virginia Tech Initiative for Efficient and Robust Machine Learning Amazon Machine Learning Fellows - FAQ

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 students get involved?

A: The new partnership will create opportunities for Virginia Tech graduate and doctoral level students who are interested in and currently pursuing educational and research experiences in artificial intelligence-focused fields. Named Amazon Machine Learning Fellows in recognition of their scholarly achievements.

Q: Who qualifies for the Amazon ML Fellowship?

A: Students must be enrolled in a PhD program at Virginia Tech, be in good standing, and should have exhibited outstanding academic performance to be eligible for a fellowship. Additionally, students must be in the, third, or fourth year of their Ph.D. studies and pursuing doctoral-level research in machine learning, data science, AI, and/or NLP.

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):

- Federated learning: models, algorithms, applications
- Information veracity: approaches to measure information truthfulness and use in applications like fact verification
- Updatable Machine Learning: algorithms to update ML models post-deployment
- Improving memory footprints of ML models for use in resource-constrained environments
- NLP on the edge: lightweight inference and learning with assurances
- Machine Learning Risk Assessment: Quantifying and characterizing risks due to stability, drift, uncertainty, interpretability, lack of recourse, and adversaries
- New systems programming abstractions for cloud ML and edge ML

Q: How can students apply for the Amazon ML Fellowship?

A: Students must be nominated for the fellowship by Virginia Tech faculty members. Nomination materials are to be submitted by the Virginia Tech faculty member. Refer to the Call for Proposal for more details about the application process.

Q: What funding is provided to students?

A: Amazon ML Fellows receive a \$24K stipend for one academic year (two semesters), full tuition coverage, and travel support of \$1K to attend conferences in student's area of research.

Q: What additional benefits do Amazon ML Fellows receive?

A: Each fellow will be invited to interview for a paid Amazon internship during the summer after the fellowship year. If selected, awardees will gain valuable industry insight and experience through direct engagement with Amazon researchers.

Q: How do you submit the nomination?

A: Nominations should be sent in one file via PDF to Wanawsha Shalaby, Manager of Operations at the Sanghani Center, wanah92@vt.edu.

If you have any additional questions about the Amazon - Virginia Tech Initiative for Efficient and Robust Machine Learning or Amazon ML Fellowship, please reach out to Wanawsha Shalaby, Manager of Operations at the Sanghani Center, wanah92@vt.edu.