UW+Amazon Science Hub & Middle Mile Products and Technology 2024 Call For Proposals
1-page abstract due: June 27 at 11:59 pm PT – <mark>**Deadline extended to July 5 at 11:59 pm PT**</mark>
Abstract submission link: https://amazonexteu.qualtrics.com/jfe/form/SV_2tyObeRZmctyVII
Shortlist/Invitation to submit full proposal notification: by July 15
Full Submission Deadline: July 22 at 11:59 pm PT
Application link: Will be provided to PIs for shortlisted proposals
Questions or to schedule office hours: Elisabeth Zimowski eez@amazon.com

Overview
Our goal is to develop and operate the world's largest and most efficient transportation and delivery network (services or products). To do this, we support research aimed at the development and implementation of mathematical optimization, Generative AI and machine learning algorithms, applications and strategic initiatives focused on the logistics and delivery of commerce, healthcare, and efficient transportation services across all modes including air, ground, rail and maritime. We welcome proposals related to the following broad research areas in order to accelerate progress in state-of-the-art transportation network design and operations, pricing, logistics and routing algorithms to guide the transportation industry of the future.
Submissions must fit within one of our four distinct research areas:

1) **Reducing the cost to serve.** Integrated network design and operations using Gen AI and optimization (all tearing down the traditional silos and thinking of new ways to deliver services and products)
2) **Smart pricing** for both supply and demand sides of the marketplace using techniques like Gen AI and transfer learning (including forecasting)
3) **Optimization of sortation processes** – "Under the Roof" (UTR) process optimization
4) **Use of Gen AI** for proactive safety assessment and incident prevention

Step I: Submit a 1-page abstract for initial review by July 5. Abstracts will be reviewed on a rolling basis up to the deadline and authors have the option of scheduling office hours with an Amazon scientist. Amazon will reach out to a shortlist of submissions to ask for a full proposal submission by July 15.

Step II: If selected, Submit full proposal by July 22. Proposal Requirements: Proposals should be prepared according to the standard proposal template (see Appendix) and should clearly indicate one of the above research areas.

Award Details: Selected Principal Investigators (PIs) may receive up to $130K in sponsored project funding (inclusive of university overhead) for one-year projects. The budget should detail all costs including indirect costs. The number of awards will be determined by project fit.

Awards will be judged on their ability to advance our research interests, impact international A/V technology, and meet clear deliverables. Projects should aim for joint publication with Amazon scientists. Please list any open-source tools or data you would intend to use. Project timelines are flexible and proposals often are organized to begin with the academic year (September 1, 2024) but can begin earlier by arrangement.

Optional: Prospective PIs have the option to schedule office hours with an Amazon scientist to discuss their proposals in advance of submission with the goal of refining and improving their project proposals. Please email Elisabeth Zimowski eez@amazon.com to schedule office hours.

Submission Deadline: 1-page abstracts are due by June 27. Full submissions are due by July 22, 2024. Please contact Elisabeth Zimowski (eez@amazon.com) with any questions.

Appendix: Proposal Template
Proposal Requirements
- Length: Proposals should be a maximum of 5 pages, including the Cover Page, not including Appendices.
- Formatting: 10-point Arial (not Arial Narrow), Courier New, or Palatino Linotype
- No more than six lines of text per inch; 0.7" margins on all sides
- Final document: All components should be saved as a single PDF and uploaded per instructions.
- If you received funds *directly or indirectly* from Amazon in the last three years, include Appendix C.
- If this work has been funded *directly* by another source (industry, philanthropic, governmental), include Appendix D.

Cover Page

<u>Project Title:</u>

<u>Personnel Contact Information:</u>
PI: <PI name>, <title>, <department name>, <university name>, <email address>
Co-PI: <PI name>, <title>, <department name>, <university name>, <email address>
Student(s) (if known): <name>, <degree>, <department name>, <expected graduation date>, <email address>
Amazon contact (optional): <Amazon contact name>, <email>

Are any participants an Amazon Scholar, AVA, PostDoc, or PhD fellow? If yes, provide dates and last known manager.

<u>Research Area:</u> As defined in overall CFP (choose one or more, if applicable)

<u>Keywords:</u> keyword 1, keyword 2, keyword 3.

<u>Budget Overview:</u>
Cash funding needed: <USD>
AWS Promotional Credits needed: <USD>

<u>Requested Start Date and Proposal Duration:</u> Start date should include sufficient time for review and funding (min 3mos) and highlight any key gating items preventing timely start (equipment purchase, hiring, etc.)

<u>Abstract:</u> (limited to one paragraph): Abstract consists of an overview, statement on intellectual merit of the proposed activity, and a statement on broader impacts of the proposed activity. It should also include a brief description of the activity that would result if the proposal were funded and a statement of the methods to be employed. Intellectual merit should include potential of the proposed activity to advance knowledge. Broader impacts should include potential benefits to society and contribution to the achievement of specific, desired societal outcomes.

The abstract should be informative to others working in the same or related fields and understandable to a broad audience within the scientific domain.

Project Proposal (4 pages max):

Introduction
Significance of the research and prior work. Include how your work might be of benefit to Amazon's customers along with its intellectual merit, potential for societal and economic impact, and overall probability of success.

Methods
Your technical approach. Include key areas of risk and how your approach mitigates them. List any existing open-source code or public datasets required, along with additional information on how they will be used/incorporated and a link. This includes [AWS/Amazon Open Data](#).

Facilities and Equipment
Include any specific materials and equipment required for successful project completion. Aimed mainly toward projects that have a hardware component.

Expected Results and Dissemination Plan
This should be a complete listing of expected outputs and a timeline for dissemination of results. As publication is expected, include the target publication(s), and expected publication timeline. Include proposed sites for uploading code (e.g., GitHub), code distribution license (Apache 2.0 or MIT), technical reports, conferences, etc. Acceptable licensing for code is as described in the governing agreement. Upon project completion, awardees will complete a Summary of Findings and provide a copy of all publications. Amazon appreciates an acknowledgement of support (language in governing agreement) in all publications and public-facing announcements.

Funds needed
Please provide justification supporting the stated amount of cash funding. This should include any student/postdoctoral support, etc.

For AWS Promotional Credits, fill out the application on the [AWS Cloud Credits for Research](#) page and include the "Save and Share" URL form the AWS Pricing Calculator at [https://calculator.aws/#/estimate] using the "Share" button. Include your AWS account number. Note that AWS credits are awarded separately from research funding and are not guaranteed.

Student/PostDoc Participation and Mentoring Plan
If any portion of the work will be performed by a student/postdoc, include information on how this work advances their academic career and/or aligns with their personal research goals. Examples can include training in proposal preparation, improvement of teaching skills, and guidance on effective research collaboration.

Appendix A - References (does not count toward page limit)
Limit to two pages.

Appendix B – CV of PI (does not count toward page limit)
One-page CV of PI (professional title, experience, etc.), only to include the 5-6 most relevant papers to this proposal. One-page CV of Co-PI (optional).

Appendix C – Previously Funded Project Summary (does not count toward page limit)

If you or someone on your project team has a previous relationship with Amazon, received cash funding or AWS Promotional Credits directly or indirectly from Amazon within the past 3 years, please answer the questions below. (Include funding from Amazon through your institution or from the NSF-Amazon Fairness in AI funding grant.)

Project title:

Funding amount:

Project Start and Completion Dates:

Funding source:

Awardee:

AWS Promotional Credits award amount, and any remaining balance:

Please provide a brief summary of the results, papers, and open-source software/datasets delivered along with links:

Appendix D – Other Funding (does not count toward page limit)

If you are receiving any other non-Amazon funding for THIS project, either industry or government (NSF, DoD, other), provide the following for EACH funding source.

Project title:

Funding amount and time:

Funding source:

Awardee: