

The College of Liberal Arts and Sciences is seeking proposals for interdisciplinary research projects that require Artificial Intelligence/Machine Learning (AI/ML) expertise and dedicated AI/ML computational resources. The award will provide computational expertise and resources through the Iowa Initiative for Artificial Intelligence (IIAI, www.iiai.uiowa.edu) to directly support the selected research projects. Selected projects may be new projects or computational expansions of existing funded research projects.

Proposals in all CLAS disciplines are welcome. Funding of at least one award is reserved for a project aimed at development of a new AI/ML interdisciplinary proposal to be submitted to the NSF or another agency for funding consideration in the Social Science area, assuming a competitive proposal is received with such a focus.

New research endeavors within CLAS will be facilitated by integration of AI/ML into proposals for researchers ranging from AI-novice to experienced. Federal research proposal review panels are increasingly looking for AI/ML aspects that would complement and extend well-established traditional analytical approaches and bring new enhanced levels of performance based on previously unavailable data (and big-data) analytics.

Responsive proposals will:

- address important interdisciplinary research questions using data-driven approaches
- be based on access to sufficient data to answer (or start answering) such questions
- seek machine learning expertise as an enabling strategy
- describe the predictors or input variables (X) and the response or outcome variables (Y)
 - for example: "We aim to use social media-based data from subjects (X) to predict their behavioral and lifestyle choices (Y)," or "We aim to use information about air-pollution sources, weather forecast, and atmospheric air flow data (X) to predict location-specific air pollution levels (Y)."
- be willing to invest effort in building a new interdisciplinary team

Research projects that are not currently supported by external peer-reviewed funding should include realistic plans for preparing and submitting a sufficiently large extramurally funded research proposal within 12 months after receiving pilot funding.

Awards will amount to the equivalent of \$12,500 in support from the IIAI. This corresponds to about 10 weeks of expert support at 25% effort and the requisite computational resources to achieve results adequate as preliminary data in a grant proposal. It will also include an expert write-up of the needed methodology for a large research proposal. The IIAI will consult with awardees to plan for longer-term collaborations that will ensure the sustainability of the project. It is anticipated that up to 2 awards will be made during this round.

Applicants are required to review concepts with M. Sonka (milan-sonka@uiowa.edu), Director of IIAI, and obtain his input and sign-off, prior to application. An internal peer-review committee will be identified to review proposals and make recommendations concerning funding of submitted proposals to CLAS leadership.

The proposal submission has 3 phases – see the timeline below ... emailing a statement of intent, discussing your plans with IIAI, and submitting a brief proposal (maximum 2 pages) addressing the following:

1. Project Title
 - a. If submitting a proposal in the field of Social Science that will lead to a grant application to NSF or another funding agency, please specifically state that
2. Investigators

3. Specific aims + Statement of research significance; should include a brief, conceptual description of the predictor or input variables (X) and the response or outcome variables (Y)
4. Current support for the project (if any)
5. Preliminary data (if any), description of available data to facilitate the proposed research
6. Specifics on how involvement of the IIAI expertise/use of computational resources will advance the research
7. Plans to receive extramural funding

Timeline:

- 12/15/2021
 - Email a brief statement of intent to M. Sonka (milan-sonka@uiowa.edu)
 - This email should include a draft document briefly outlining items 1, 3, 5 of the proposal above
 - 12/15/2021 – 1/20/2022
 - Scheduled meetings of each team with IIAI to discuss the proposed research
 - 1/31/2022
 - Proposal submission (2 pages max.)
 - 2/1– 2/15/2022
 - Internal review of proposals, recommendation to CLAS leadership
 - 2/20/2022
 - Selection of projects to be funded
 - 2/21/2022
 - Announcement of up to 2 projects to be funded
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