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Introduction

This edition of the Tufts Washington Update for early August includes funding opportunities. With Congress on recess this month, there are no congressional updates included. Faculty, staff, and researchers are welcome to schedule calls with the Lewis-Burke Tufts team or meet with the team when they visit Washington, DC. Contact Amber Cassady, Lewis-Burke Associates LLC, at amber@lewis-burke.com with any questions or comments related to the Update’s content, for more information on updates and opportunities, or to add a new recipient to the distribution list.
Funding Opportunities

National Science Foundation Releases Joint Machine Learning for Wireless Networking System Opportunity with Intel

On July 30, the National Science Foundation (NSF) released a solicitation for a new NSF/Intel Partnership on Machine Learning for Wireless Networking Systems program. This program aims to explore Machine Learning (ML) as a potential tool to manage growing and increasingly complex wireless deployments by funding collaborative research into wireless-specific ML techniques that can solve identified, realistic problems and demonstrate improvements on existing model-based approaches to designing the wireless stack. Projects under this program should move towards the goal of creating a next-generation wireless system and architecture design that can “dynamically access shared spectrum, efficiently operate with limited radio and network resources, and scale to address the diverse and stringent quality-of-service requirements of future wireless applications.”

The solicitation lays out three Research Vectors (RV), of which proposals may address one or more:

- **RV1: ML for Wireless Networks** – will fund new ML solutions enabling “large scale, multi-radio, ultra-dense wireless networks.” This RV lays out example topics within four broad areas:
  - Physical (PHY) Layer
  - Medium Access Control (MAC)/Network Layer
  - End-to-end (E2E) Applications
  - Network Analytics and Management

- **RV2: ML for Spectrum Management** – This RV aims to build on efforts at the Defense Advanced Research Projects Agency (DARPA) in secure access, dynamic access and monitoring, and other spectrum sharing issues. Listed example topics are:
  - ML-based Spectrum Monitoring and Analysis
  - Real-time ML Tools for RF Spectrum Sensing and Channel Characterization
  - Learning-enabled Improved Coexistence
  - ML-based Dynamic Protocol Selection

- **RV3: Distributed ML over Wireless Edge Networks** – This RV aims to create an integrated ML and wireless networking framework that can address limitations of ML techniques ability to operate with incomplete or untimely data exchanges, as well as explore various distributed learning models. Listed example topics include:
  - Exploiting Redundancies in Computation and Communication
  - Adaptive Computing
  - Resource Management for Distributed ML
  - ML-driven Collaborative Learning Models
  - Real-Time Learning and Decision Making

The solicitation also addresses the underlying need to create curated data sets and interfaces/tools for accelerated research in ML for wireless networks. Specifically, the solicitation calls for datasets comprising:

- “parameters pertaining to large-scale, multi-radio, ultra-dense wireless networks;
- RF signals; and/or
- relevant computation traces of federated, collaborative, and decentralized learning algorithms that can be used for benchmarking and developing future algorithms for emerging applications.”
Of note, Intel and NSF will each conduct their own proposal reviews after which a joint NSF and Intel Working Group will recommend proposals for award.

**Eligibility:** While there is no restriction on who may serve as a PI or the number of submissions an institution may submit, an individual can appear as a PI or Co-PI on no more than one proposal. Proposals may only be submitted by Institutions of Higher Education (IHEs).

**Due Date:** Full proposals are due October 29, 2019.

**Total Funding and Award Size:** NSF anticipates 10 to 15 awards will be made, each between $300,000 and $1,500,000 total for a period of up to three years. Total funding for the program is anticipated to be $9,000,000.

**Sources and Additional Information:**

- The program page can be found at [https://www.nsf.gov/funding/pgm_summ.jsp?pgm_id=505687](https://www.nsf.gov/funding/pgm_summ.jsp?pgm_id=505687).

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**Air Force Academy Releases BAA for New Approaches in AI/AS Education**

The U.S. Air Force Academy (USAFA) released a call under its general broad agency announcement (BAA) seeking fundamental research that can lead to new approaches in artificial intelligence (AI) and autonomous systems (AS) education. USAFA’s Academy Center for Cyberspace Research (ACCR), which focuses on computer and cyber science, is specifically seeking research proposals that may lead to the development of lesson plans, exercises, and classroom activities at USAFA and public institutions. Proposals should also include mentorship for cadets to develop capstone projects addressing concepts for AI/AS systems and deployment of those systems. Research areas should include algorithms, educational best practices, techniques, and pedagogical approaches.

**Eligibility:** Entities from academia and industry are eligible to apply.

**Due Dates:** White papers are due on **August 30, 2019 by 4:30 PM MST** and full proposals, if invited, are due 30 days after the request for proposal is sent to a potential awardee.

**Award:** USAFA anticipates awarding one cooperative agreement with a total estimated funding of $420,000 for a performance period of 36 months.

**Sources and Additional Information:**

- More information on this solicitation can be found on [www.grants.gov](http://www.grants.gov) under solicitation number “USAFA-BAA-2015-CALL-0008.”
- USAFA’s general BAA, which lists its research interests, can be found at [www.grants.gov](http://www.grants.gov) under solicitation number “USAFA-BAA-2015.”

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Institute of Museum and Library Services Releases NOFOs for Library Workforce and Innovation

The Institute of Museum and Library Services (IMLS) recently released two fiscal year (FY) 2020 notices of funding opportunity (NOFOs) for the Laura Bush 21st Century Librarian Program (LB21) and the National Leadership Grants for Libraries (NLG-L).

The LB21 program aims to diversify the librarian workforce by “enhancing the training and professional development of library and archives professionals, developing faculty and library leaders, and recruiting, educating, and retaining the next generation of library and archives professionals.”

The NLG-L grants, which were previously reported by Lewis-Burke but have since been updated, support projects that “enhance the quality of library and archival services nationwide by advancing theory and practice” and ultimately motivates the library and archival field to innovate in response to changes in society. Both proposals should fall under one of three project categories: 1) Lifelong Learning 2) Community Catalysts 3) National Digital Infrastructures and Initiatives.

Eligibility: Eligible organizations for both NOFOs include college and university libraries.

Webinar: A pre-application webinar with the opportunity to ask program staff questions will be held on August 7, 2019 at 3:30pm ET.

Due Dates: Preliminary proposals for both grants are due on September 27, 2019 at 11:59pm ET, and invited full proposals will be due on March 20, 2020.

Sources and Additional Information: