NATIONAL SCIENCE FOUNDATION
2415 EISENHOWER AVENUE
ALEXANDRIA, VIRGINIA 22314

NSF 20-029

Dear Colleague Letter: Research Opportunities for the Directorate for Engineering in Artificial Intelligence

December 16, 2019

Dear Colleagues:

Recent advances in artificial intelligence (AI) and its emerging uses in various knowledge and technology fields have been enabled by accelerating advances in fields such as deep learning, computer vision and natural language processing, in parallel with increased computing power and availability of large data sets. Such advances, combined with the development of new logic algorithms and hardware suitable for AI, are expected to generate profound commercial and societal impacts in areas ranging from autonomous vehicles to manufacturing, robotics, agriculture, construction, building management and vehicle safety, highlighting the convergence of engineering and data sciences.

Synergy between research frontiers in AI and the projects sponsored by the Directorate for Engineering have the potential to stimulate further transformative progress and continued advancement in engineering processes and systems, addressing issues of national importance with potential for economic impact and quality-of-life improvements. The National Artificial Intelligence Research and Development Strategic Plan (National Science and Technology Council, June 2019) provides a framework for the visioning activities and strategic objectives of investments in AI research in the United States.

This Dear Colleague Letter (DCL) highlights existing programs and other potential opportunities for ENG researchers to participate in the submission of proposals and supplemental funding requests for AI projects:

- ENG core research, education and innovation programs (described in https://www.nsf.gov/dir/index.jsp?org=ENG)
- ENG centers and networks
- Collaborative projects with other directorates and agencies
- Conferences and workshops
- Start-ups and small businesses focused on commercializing AI-enabled devices,

systems and platforms
- AI dedicated programs, including the National Artificial Intelligence Research Institutes program (described in NSF 20-503; with FAQs in NSF 20-021). There are two tracks described in this program: A Planning Grant track (deadline January 30, 2020) and an Institute Track (January 28, 2020) that has six specific thematic areas. Four of the Institutes Tracks may be of special interest to ENG researchers working in the fields of: Foundations of Machine Learning; AI-Driven Innovation in Agriculture and the Food System; AI-Augmented Learning; AI for Accelerating Molecular Synthesis and Manufacturing.

POINTS OF CONTACT

The activities described in this DCL constitute neither a special competition nor a new program. Interested PIs should contact the cognizant Program Officer for the respective topic of the proposed project or for the active award they seek to supplement to discuss specific program requirements. General programmatic guidance can be provided by:

CBET
Catherine Walker, cawalker@nsf.gov, 703-292-7125
Shahab Shojaei-Zadeh, sshojaei@nsf.gov, 703-292-8045

CMMI
Irina Dolinskaya, idolinsk@nsf.gov, 703-292-7078
Jordan Berg jberg@nsf.gov, 703-292-5365

ECCS
Anthony Kuh akuh@nsf.gov, 703-292-2210
Shubhra Gangopadhyay sgangopa@nsf.gov, 703-292-2485

EEC
Edward Berger eberger@nsf.gov, 703-292-7708

IIP
Peter Atherton patherto@nsf.gov, 703-292-8772

Sincerely,

Dawn Tilbury
Assistant Director
Directorate for Engineering (ENG)