Keynote:
Open Knowledge Network

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Abstract

Knowledge networks that encode information and knowledge about real-world entities and their relationships provide a key, enabling semantic information infrastructure for next generation, artificial intelligence-based technologies and applications. An Open Knowledge Network (OKN) effort would help create a common semantic information infrastructure to boost the next generation of data-enabled machine learning and artificial intelligence applications. Such an open network could be formed by utilizing the data and information for an initial set of science and engineering domains, as well as other domains of interest, driven by a set of significant, well-defined questions addressing scientific challenges and societal problems. This talk will present results from a community workshop on this topic which was held in October 2017 at the National Library of Medicine (`http://ichs.ucsf.edu/open-knowledge-network/`). Application domains discussed at the workshop included geosciences, biomedicine, finance, and smart manufacturing. Workshop participants were from industry, academia and government agencies.

Bio

Chaitan Baru is Senior Advisor for Data Science in the Computer and Information Science & Engineering Directorate at the National Science Foundation, Alexandria, VA, where he co-chairs the NSF Harnessing the Data Revolution Big Idea working group, and has responsibility for the cross-Foundation BIGDATA research program. He is advisor to the NSF Big Data Regional Innovation Hubs and Spokes program (BD Hubs/Spokes) and was engaged in the development of the NSF Transdisciplinary Research in Principles of Data Science (TRIPODS) program. He also co-chairs the Big Data Interagency Working Group—which is part of the Networking and IT R&D program of the National Coordination Office, White House Office of Science and Technology Policy—and is a primary co-author of the Federal Big Data R&D Strategic Plan (released May 2016). Dr. Baru is on assignment at NSF from the San Diego Supercomputer Center (SDSC), University of California San Diego, where he is a Distinguished Scientist and Director of the Advanced Cyberinfrastructure Development Group (acid.sdsc.edu) and the Center for Large-scale Data Systems Research (clds.sdsc.edu).