SEEDCorn: NSF Big Data Hub

UNL joins 'brain trust for data science'

In response to the National Science Foundation's National Big Data Research and Development Initiative: Accelerating the Big Data Innovation Ecosystem, federal agencies, private industry, academia, state and local governments, non-profits, and foundations have come together to help to solve some of the Nation's most pressing R&D challenges related to extracting knowledge and insights from large, complex collections of digital data through big data research and infrastructure development; education and workforce development; and multidisciplinary collaborative teams and communities that address complex science and engineering challenges. To augment ongoing activities and to ignite new big data public-private partnerships across the Nation, the NSF Directorate for Computer and Information Science and Engineering has established a national network of four Big Data Regional Innovation Hubs representing the Northeast, Midwest, South, and West. Each Hub is a consortium of members that focus on key big Data challenges and opportunities for its region of service with an aim to support the breadth of interested local stakeholders that would not be possible for the independent members to achieve alone.

As part of the initiative, the University of Nebraska has joined forces with the Universities of Illinois Urbana-Champaign/NCSA, Michigan, North Dakota, Indiana, and Iowa State to form the Midwest Big Data Hub (MBDH). Its steering committee consists of representatives from the University of Nebraska Lincoln, the University of Kansas, Kansas State University, the University of Missouri, the University of Iowa, the University of Cincinnati, Wayne State University, Argonne National Labs, UI Labs, and the University of Chicago. The efforts of Midwest hub's newly formed SEEDCorn, the Sustainable Enabling Environment for Data Collaboration, will focus on connecting projects and researchers across the region, developing new educational activities and best practices for colleges and universities, supporting pilot projects that lead to innovation, interlinking and acceleration of data services and implementing new business models for sustainable data solutions. According to the project summary, the result of SEEDCorn will be a sustainable hub of Big Data activities across the region and across the nation that enable research communities to better tackle complex science, engineering and societal challenges, that support competitiveness of U.S. industry, and that enable decision makers to make more informed decisions on topics ranging from public policy to economic development.

"With interests relevant to agriculture and natural resources, physics, earth and atmospheric sciences, and data sciences, UNL and its stakeholders are faced with the challenge of using data science to increase agricultural production through imaging (remote sensing, plant phenotyping),

cellular/genomic (high throughput sequencing), and autogenic (real time sensing and data collection)," says Dr. Jennifer Clarke, steering committee member and at-large leader for Digital Agriculture. "The large amounts of available data and their complexity require that regional partners agree on standards for data sharing, data access, and data stewardship, and provide shared resources and educational opportunities to the community," she adds.

The Midwest hub is led by Principal Investigator, Dr. Edward Seidel, Founder Professor of Physics, Professor of Astronomy, Director, National Center for Supercomputing Applications (NCSA), University of Illinois at Urbana-Champaign and CoPIs Brian Athey, Professor and Chair, Department of Computational Medicine and Bioinformatics, Co-Director, Michigan Institute for Data Science (MIDAS), University of Michigan; Sarah Nusser, Vice President for Research, Iowa State University; Beth Plale, Professor of Informatics and Computing, Indiana University; and Joshua Riedy, Vice-Provost and Chief Strategy Officer, University of North Dakota.

Dr. Clarke is an Associate Professor of Food Science & Technology and Statistics, and Director of UNL's Quantitative Life Sciences Initiative, (formerly the Computational Sciences Initiative), a faculty-led initiative to develop research and educational opportunities in data science for the life sciences. Industry partners involved in the early stages of Hub development in Nebraska include Li-Cor, Dow Agrosciences, Dupont Pioneer, and the Nebraska Public Power District.

Read the full article: Establishing a 'brain trust for data science'
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