

ABSTRACT FACE PAGE

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INITIATIVES TO EXPAND DATA SCIENCE AND DATA-ENABLED SCIENCE EDUCATION, COLLABORATION, AND RESEARCH

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BACKGROUND: The University of Utah has recently launched two initiatives focused on data science: the DATA Science and Ethics of Technology (DATASET) and Data Exploration and Learning for Precision Health Intelligence (DELPHI) initiatives. In collaboration with the Utah Center for Data Science (UCDS), these initiatives make up the university-wide One Utah Data Science Hub (Fig. 1). The DATASET Initiative aims to engage in foundational questions about the role of data in society, including scholarship that advances storage capability and function, enhances visualization and analysis, critically investigates the logic and ethics of data tools, and develops policy and legal guidelines for meaningful data use. The DELPHI Initiative aims to drive innovation in health and medicine by catalyzing biomedical data science research and expand data science expertise to accelerate scientific discovery and implementation. The UCDS aims to advance the fundamental principles and practice of data science through research, applications, and community engagement.

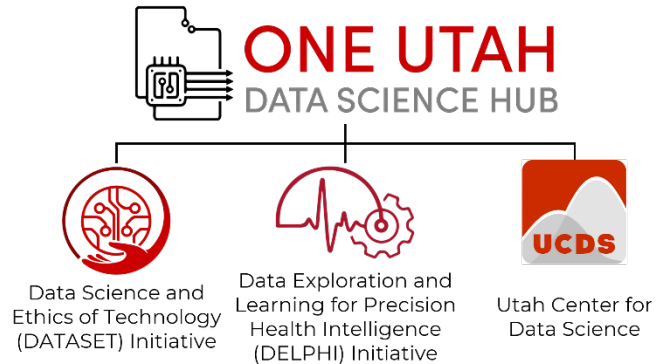


Figure 1: The organizational structure of the One Utah Data Science Hub which incorporates the DATASET Initiative, DELPHI Initiative, and the Utah Center for Data Science.

METHODS: The leadership of the One Utah Data Science Hub is comprised of two faculty co-directors from each the DATASET and DELPHI Initiatives and the faculty director of UCDS. The One Utah Data Science Hub has an overarching mission to empower innovation in data science to positively impact science and society and a vision that the University of Utah will be the bridge of the digital divide and a leader in the ethical development of data driven technology, economy, and society. The strategic goals to achieve this vision are to build and maintain world-class data science compute and data infrastructure, ensure equitable data and infrastructure access, accelerate boundary-spanning collaborative research innovation with an impact of regional importance, strengthen practical education and knowledge transfer, deepen integration with our community and local industry, including the training of a data workforce, and expand funding of and resources for data science research.

RESULTS: The One Utah Data Science Hub initiated a seed grant program aimed at catalyzing new collaborations and innovative research in data science and data-enabled science that will lead to extramural funding. In the pilot award cycle, seven awards totaling \$300,000 were provided to researchers for projects ranging from optimization of regional medical networks to understanding environmental and genetic factors of fetal development to predicting phenotypes in zebrafish. The Hub plans to offer networking events starting this fall to help connect researchers for cross-cutting data science projects. The DELPHI Initiative organizes regular workshops on data science training and education and a yearly research symposium, while the DATASET Initiative has sponsored two discovery workshops on climate resilience and bias and ethics of data science and artificial intelligence. UCDS organizes a weekly seminar and an annual data science day for students and faculty to engage with a broad span of research, resources, and industry partners.

CONCLUSIONS: While the lasting impact of this effort is yet to be realized, the One Utah Data Science Hub aims to grow general knowledge around modeling and statistical methods, encourage cross-departmental collaboration, and catalyze research and innovation across campus, including in biological, bioengineering, and behavioral sciences.

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