

# NSF MRI: Development of an Instrument for Deep Learning Research

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## Overview

This project will develop and deploy a novel instrument for accelerating deep learning research at the University of Illinois. The instrument will integrate the latest computing, storage, and interconnect technologies in a purpose-built shared-use system. This Instrument will deliver unprecedented performance levels for extreme data-intensive emerging fields of research with far-reaching impacts in many areas, such as computer vision, natural language processing, artificial intelligence, healthcare and education. The instrument development will be driven by the Uofl deep learning community needs and will be carried out in collaboration with IBM and Nvidia. The instrument will serve as a focal point for the rapidly growing deep learning research community at Uofl, enable expansion of several research programs, and contribute to STEM education and training.

[https://www.nsf.gov/awardsearch/showAward?AWD\\_ID=1725729](https://www.nsf.gov/awardsearch/showAward?AWD_ID=1725729)

[http://www.ncsa.illinois.edu/enabling/data/deep\\_learning](http://www.ncsa.illinois.edu/enabling/data/deep_learning)

## Personnel

Co-PIs	Development team	Advisory Board
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## Campus collaborators

Participants Name	Department/ Affiliation	Title	Research Area	Project Link
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M. Hudson	Crop Sciences	Prof.	Bioinformatics	
S. Sinha	CS	Prof.	Bioinformatics	
E. Tajkhorshid	MCB	Prof	Bioinformatics	
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G. Allen	Astronomy/Education	Prof/Assoc. Dean Education	Cosmology & Astrophysics	
R. Brunner	Astronomy	Prof.	Cosmology & Astrophysics	
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Y. Fan	ECE	Grad. Student	Image Generation & Analysis	
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T. Huang	ECE	Prof.	Image Generation & Analysis	
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J. Towns	NCSA	Executive Director	Information and Technology	
N. He	ISE	Asst. Prof.	Large-scale Optimization	
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H. Hashemi	CS	Grad. Student	Machine Learning	
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M. Sammons	CS	Research Asst. Prof.	Natural Language Processing	
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L. Paquette	Education	Asst. Prof.	Social Network Analysis	
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C. Zhai	CS	Prof.	Text Mining	

## System

P9 + NVIDIA Volta GPUs + HDR IB