UNLV | HOWARD R. HUGHES COLLEGE OF ENGINEERING

CAPABILITY STATEMENT: BIG DATA

UNIVERSITY OF NEVADA, LAS VEGAS, HOWARD R. HUGHES COLLEGE OF ENGINEERING

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OVERVIEW

UNLV researchers conduct world-class efforts in various aspects of big data research. This program has been funded by federal and state agencies, as well as many industrial partners. Our researchers have addressed questions related to fields, such as big data, relative to national security and health issues including:

1) Data science, machine learning, big data analytics;
2) Deep learning: Interpretable deep learning;
3) Integrative deep learning: integrative analysis of multiple types of data such as image and text data, document layout analysis;
4) Big data science and foundations, such as theoretical models and computational models for big data;
5) Big data management such as algorithms and systems for big data search, large-scale recommendation systems, social media systems, and cloud/grid/stream deep learning;
6) Big data search and mining such as social web, multimedia, and multi-structured mining; and
7) Big data applications, such as in science, engineering, medicine, gaming, healthcare, finance, and transportation.

RESEARCH CAPABILITIES

National Supercomputing Center Resources: Cherry Creek Supercomputer:

We have access to clusters and cloud computing at UNLV via the National Supercomputing Center.

- The Cherry Creek Supercomputer was ranked on the Top 500 list. It has 26,000 cores, theoretical peak speed of 500 TFlops/s (Trillion Floating-Point operations per second), total memory of 32 TB (TeraBytes), and total scratch storage of 46 TB. The computer has heterogeneous Intel Xeon E5-2697v2 12C 2.700GHz, Intel Truscale, Intel XeonPhi 7120P, and Intel XeonPhi 31S1P cluster.

PAST PERFORMANCE

Department of Defense, National Science Foundation, National Institute of Health