Big Data Research
For more than a decade, UNLV researchers have been conducting a world-class effort 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 many fields, including big data, relative to national security and health issues.

We would like to introduce you to some of our researchers. Please feel free to contact us if we can help with future collaboration.
Big Data
Research Areas of Expertise

• Big data analysis
• Cloud computing
• Deep learning
• Document analysis
• Enhance quality of healthcare without increasing costs
• Expansion of public transparency
• Healthcare informatics
• Human-computer interaction
• Information privacy and security
• Information retrieval
• Machine learning
• Text mining
• UAS and GIS integration
Why UNLV?

• UNLV is a leader among the state’s public entities dedicated to advancing big data research in the region and beyond.

• UNLV is located centrally in the west and houses the high-performance computing center, also known as The National Supercomputing Institute.

• Additional data center space is located at Switch Communications, which houses the Intel Supercomputer “Cherry Creek” (26,000 cores) cluster. The site provides Federal and State researchers with state-of-the-art, highly-secure cloud computing.
Big Data Research

Why UNLV?

- UNLV’s outstanding achievements in big data research, its success in forging public/private partnerships, and its excellent academic programs place the university at the forefront of the field.

- UNLV has acquired over $6 million in research funding in the last two years on wide-ranging subjects in the big data area, including:
  - Big data analytics;
  - Network science;
  - Healthcare informatics;
  - Social computing; and
  - Information privacy and security.
Faculty Involved in Big Data Research

Dr. Mingon Kang
Assistant Professor, Department of Computer Science

Dr. Fatma Nasoz
Associate Professor, Department of Computer Science
Affiliate Faculty, Nevada Institute of Personalized Medicine (NIPM)

Dr. Haroon Stephen
Associate Professor, Department of Civil and Environmental Engineering and Construction

Dr. Kazem Taghva
Professor and Chair, Department of Computer Science
Big Data

Research Highlights
Big Data Research

Dr. Mingon Kang
Assistant Professor, Department of Computer Science
Director, DataX Lab (http://www.dataxlab.org)
Phone: (702) 895-4884
Email: mingon.kang@unlv.edu

- Expertise
  - Data science, machine learning, big data analytics
  - Deep learning:
    - Interpretable deep learning
    - Integrative deep learning
  - Integrative analysis of multiple types of data such as image and text data
  - Medical image analysis
  - Document layout analysis
Big Data Research

Dr. Mingon Kang
Assistant Professor, Department of Computer Science

Relevant Publications

• J. Hao, Y. Kim, J.H. Oh, T. Kim, and M. Kang, "PASNet: Pathway-Associated Sparse Deep Neural Network for Prognosis Prediction from High-throughput Data", *BMC Bioinformatics*, 19:510, 2018
Dr. Fatma Nasoz
Associate Professor, Department of Computer Science
Affiliate Faculty, Nevada Institute of Personalized Medicine (NIPM)
Phone: (702) 895-0097
Email: fatma.nasoz@unlv.edu

- Expertise
  - Human computer interaction
  - Affectively intelligent systems
  - Machine learning
  - Deep learning
  - Cloud computing
Big Data Research

Dr. Fatma Nasoz
Associate Professor, Department of Computer Science
Affiliate Faculty, Nevada Institute of Personalized Medicine (NIPM)

Relevant Publications

Dr. Haroon Stephen
Associate Professor, Department of Civil and Environmental Engineering
Director, GIS and Remote Sensing Core Lab
Phone: (702) 774-1463
Email: haroon.stephen@unlv.edu

- Research Interests
  - Sensors aboard UAS for remote sensing: testing and applications
  - UAS and GIS integration
  - Applications of UAS to resource mapping, monitoring, and management
  - Data fusion and data mining of multi-scale sources: UAS, aerial, and spaceborne sensors
Big Data Research

Dr. Haroon Stephen
Associate Professor, Department of Civil and Environmental Engineering and Construction

Relevant Publications

Dr. Kazem Taghva
Chair and Professor, Department of Computer Science
Phone: (702) 895-0873
Email: kazem.taghva@unlv.edu

- Research Interests
  - Databases
  - Machine learning
  - Information retrieval
Big Data Research

Dr. Kazem Taghva
Chair and Professor, Department of Computer Engineering

Relevant Publications

• Kazem Taghva, Name identification and extraction with formal concept analysis. *International Journal of Machine Learning and Cybernetics*, 2017, Volume 8, Number 1, Page 171.