THE UNIVERSITY OF TEXAS AT AUSTIN
Texas Advanced Computing Center

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# DIRECTOR FOR DATA INTENSIVE COMPUTING

## ABOUT TACC

The Texas Advanced Computing Center (TACC) at The University of Texas at Austin (UT Austin) is a leading research center for computational excellence in the United States. TACC's mission is to enable discoveries that advance science and society through the application of advanced computing technologies. To fulfill this mission, TACC staff help researchers and educators use these technologies effectively, and conduct research and development to make these technologies more powerful, more reliable, and easier to use. TACC staff also help encourage, educate, and train the next generation of researchers, empowering them to make discoveries that change the world.

## JOB DESCRIPTION

The Director for Data Intensive Computing will lead the research, development, support, and technology evaluation activities relating to large scale data and data driven science at the Texas Advanced Computing Center (TACC). The Director for Data Intensive Computing will enhance TACC's leadership in managing large scale data and enabling scientific discoveries driven by data analysis, building on services already in place and expanding research programs and production offerings by attracting new federal and private funding. This position will lead a department that includes the Data Management & Collections group and the Data Mining & Statistics group at TACC.

## QUALIFICATIONS

In this position, TACC is seeking leadership and expertise in the four pillars of TACC's large data strategy: storage and storage systems, collections, analytics (data mining and statistics), and architectures for data driven science and data intensive computing.

Relevant areas of expertise include:

### 1. STORAGE AND STORAGE SYSTEMS

- large scale data
- scalable filesystems
- parallel filesystems - Lustre, GPFS, Panasas, etc.
- cloud filesystems - HDFS, etc.
- large scale databases
    - Scaling of traditional databases
    - Alternate stores for data relations (BigTable, SciDB, MongoDB, other column stores).
- storage technologies, disk, tape, flash
- hierarchichal storage management
- alternate storage interfaces and access methods(i.e. S3)

### 2. COLLECTIONS

- collection management
- ingest
- curation
- metadata management
- provenance
- data integrity
- data warehouse construction
- compliance with regulations regarding data privacy and security including HIPAA, FERPA, FISMA, etc.

### 3. DATA MINING AND STATISTICS

- mining, clustering techniques
- statistical methods for large scale data analysis, particularly as they relate to scientific data.
- other methods of large scale analytics

### 4. TECHNIQUES/SYSTEMS/ARCHITECTURES FOR DATA DRIVEN SCIENCE AND DATA INTENSIVE COMPUTING

- parallel file systems
- SSD storage
- shared memory and virtual shared memory systems
- cloud storage systems
- data processing using GPUs, ARM, Intel MIC, and other processor architectures

Candidates should have experience in preparing publications and proposals. Familiarity with NSF data programs is preferred, to help execute data services in the XSEDE project, the iPlant project, and other large-scale NSF projects, as well as collaborations in Texas. Domain experience in life sciences or other scientific domains involving large data is desirable.

## INSTRUCTIONS TO APPLICANTS

The University of Texas at Austin is an Equal Opportunity/Affirmative Action Employer and actively seeks women and minority applicants for this position. Working conditions include exposure to standard office conditions, employee may work around electrical and mechanical hazards, and repetitive use of a keyboard at a workstation. This position is security sensitive; conviction verification conducted on applicant selected.

The retirement plan for this position is Teacher Retirement System of Texas (TRS), subject to the position being at least 20 hours per week and at least 135 days in length.

**Application requirements:** For additional information about this position, please contact Janie Bushn at jbushn@tacc.utexas.edu.