

Position: Post-Doctoral Fellow – Scientific Visualization and Topological Data Analysis

Location: Main Campus, SCI Institute, University of Utah

Job Summary:

The Scientific Computing and Imaging (SCI) Institute at the University of Utah invites applications for one post-doctoral researcher for interdisciplinary work spanning scientific data visualization and topological data analysis. The successful candidate will perform a systematic study of topology-preserving data sketching techniques to improve visual exploration and understanding of large scientific data. The postdoc will work closely with SCI Institute researchers and external collaborators to integrate research into software applications and apply this software to compelling problems in scientific applications. The postdoc will benefit from the interdisciplinary nature of the research that interfaces data visualization, topological data analysis, and domain science such as computational fluid dynamics and material science.

Salary Range: \$50K - \$65K - Post-doc funding depending on experience

Responsibilities

This position has three main responsibilities:

- 1) Design, analysis, and application of data sketching techniques. Focus areas: data sketching (statistical, geometric sketches, graph, and matrix sketching), data visualization, topological data analysis, algorithms in machine learning and data mining.
- 2) Implementation and evaluation of these methodologies with open-source software compatible with platforms such as ParaView and VTK.
- 3) Scientific interactions between Utah and other collaborators (at the University of Utah and national labs).

For more information regarding the project, see <http://www.sci.utah.edu/~beiwang/toposketch/>.

Qualifications

The SCI Institute is seeking a highly talented and committed individual with a demonstrated ability to work well with minimal supervision in a multi-disciplinary research environment. Backgrounds in computer science, data science, applied mathematics, physics and computational sciences will be considered. Individuals comfortable with data visualization, algorithms (in particular, data sketching and compression), topological data analysis, computational topology, computational geometry, data mining, and machine learning preferred. The candidate is expected to be self-motivated and have good organizational, communication, and teamwork skills. The candidate selected will contribute to the Institute's world-class research and software development efforts and have the opportunity to develop their research, publication, and presentation skills under mentorship from established faculty investigators. Please contact Dr. Bei Wang for further information and send applications directly to (u0731785@gcloud.utah.edu).

About SCI

The Scientific Computing and Imaging (SCI, www.sci.utah.edu) Institute is a world-class research institute at the University of Utah in Salt Lake City. We are a highly dynamic and motivated group of over 150 faculty, staff, and students. The overarching goal of the Institute's research is to create new techniques, tools, and systems to provide science-based solutions to

problems affecting various aspects of human life. We believe that developing state-of-the-art computational solutions for such complex systems requires research in a number of areas within scientific computing including visualization, simulation, and modeling. The core strengths of the Institute include scientific visualization, biomedical imaging, problem solving environment (PSE) development, and general computational methods and techniques.

How to Claim Vet Preference: Applicants claiming Veterans or Disabled Veterans preference must submit a photocopy of their DD-214 and complete the Utah State Veteran's Preference Addendum.

Equal Employment Opportunity: The University of Utah is an Affirmative Action/Equal Opportunity employer. Upon request, reasonable accommodations in the application process will be provided to individuals with disabilities.

Start Date: As soon as possible, preferably in Spring 2022.