

TITLE: Lead Data Infrastructure Software Engineer

The Information Technology Laboratory of the National Institute of Standards and Technology is seeking a Post-Doctoral Associate Researcher to support leading the development of statistical computing applications and tools. You will establish tools, in collaboration with the statistics team, that will include public-facing web infrastructure and code bases used by bench scientists for data collection and analysis and a central, high-resolution data repository for international clock and frequency measurements—a mission-critical infrastructure for the upcoming redefinition of the second. <https://nexus.mines.edu/nist-professional-research-experience-program/>

U.S. citizenship is preferred.

Duties

- **Architectural Leadership:** Partner with domain experts to translate fundamental physics requirements into actionable software development plans and machine-actionable datasets.
- **Data Repository Management:** Guide the creation, deployment, and maintenance of a repository for interlaboratory measurements, ensuring adherence to **FAIR data principles**.
- **Stream Consolidation:** Manage complex data streams from atomic clocks, optical fiber links, and optical frequency combs.
- **Analytical Frameworks:** Develop methodologies for collating heterogeneous datasets and extract insights using statistical techniques and AI/ML approaches.

Required Skills, Expertise and Qualifications

- **Education:** Ph.D. in Computer Science, Systems Engineering, Statistics, Physics, or a closely related field.
- **Scientific Computing:** Proficiency in **Python**, Linux/Bash, and workflow development.
- **Infrastructure & DevOps:** Hands-on experience with **AWS, Docker, Kubernetes**, and data formats (JSON, XML).
- **Data Science:** Applied experience in machine learning and the production of reproducible, archival datasets.
- **Professional Skills:** Proven leadership in cross-disciplinary environments with strong scientific communication skills.

Employment Terms: This opportunity is to be an associate researcher in the NIST Statistical Engineering Division for a term of 1 year, with options to renew annually and/or pursue longer term federal employment. Associate researchers are NOT Federal Employees, but they work aside NIST researchers. Relocation expenses will not be provided.

Salary: \$71,000 - \$71,000

How to express interest: U.S. Citizens who meet all of the required qualifications and who would be interested in taking this position are invited to express their interest in the position by sending an updated CV to Amanda Koepke via Amanda.koepke@nist.gov.