

TITLE: Data Infrastructure Software Engineer

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

Duties

- **Strategic Support:** Partner with domain experts to translate scientific needs into technical software requirements.
- **Repository Architecture:** Build and deploy a central repository for the storage and sharing of interlaboratory analyses.
- **Data Engineering:** Curate and transform raw sensor data into machine-actionable datasets following **FAIR data principles**.
- **Stream Management:** Consolidate data from atomic clocks, optical fiber links, and frequency combs.
- **Complex Pipelines:** Develop methodologies for heterogeneous datasets and multimodal processing pathways.
- **Information Extraction:** Apply statistical techniques and AI/ML to derive insights from curated data.

Required Skills, Expertise and Qualifications

- **Education:** Bachelor's degree in Computer Science, Systems Engineering, Statistics, Physics, or a related field.
- **Scientific Computing:** Proficiency in **Python**, Linux/Bash, and workflow development.
- **Modern Infrastructure:** Experience with **DevOps**, **Docker/Kubernetes**, and **AWS**.
- **Data Proficiency:** Knowledge of JSON, XML, and web technologies (HTML/CSS/JS).
- **Research Standards:** Background in applied ML, reproducible research, and the dissemination of archival datasets.

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 as NIST researchers. Relocation expenses will not be provided.

Salary: \$60,000 - \$60,000

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.