Position Justification
The Cooperative Institute for Research in the Atmosphere (CIRA) at Colorado State University seeks to fill a full-time professional research position for its collaborative research and development as a Cooperative Institute with the National Oceanic and Atmospheric Administration (NOAA) National Weather Service (NWS) Office of Science and Technology Integration (OSTI) in Silver Spring, MD. This position is located in a federal facility in Silver Spring, MD and requires the ability to pass a National Agency Check with Inquiries (NACI, federal background check) for building access. Office will be in Silver Spring, MD; however, the option exists to work remotely from your home/office with periodic coordination meetings in Silver Spring.

Organization Background
The primary goal of the research partnership between the NWS OSTI and CIRA has been to keep abreast of advanced technology and apply it to OSTI. The partnership is focused on providing technical expertise to OSTI. OSTI is responsible for developing and implementing scientific techniques into NWS operations to improve weather and environmental forecasts and services. OSTI provides support to NWS field forecast offices, National Centers for Environmental Prediction (NCEP), and external customers nationwide.

The NWS has a significant amount of large valuable datasets, as well as an exponentially growing cloud presence. The NWS OSTI would like to join these two efforts to develop a data lake that is available for NWS entities to utilize to accelerate scientific discovery and services. Many NWS and NOAA datasets are already available in the cloud via open data platforms such as Amazon Web Services (AWS) Registry of Open Data. There is a significant amount of more datasets that are not available in these registries but could be provided in a mixed data lake. The availability of these datasets in a data lake would provide an incubator for scientific and service-based development in the cloud for the NWS.

CSU recognizes the importance of supporting its employees as they balance their career, personal and family life, and that employees must be able to recharge, feel protected in their employment, and take the time they need to improve their overall productivity and health. Faculty, Administrative Professional, and other Non-Classified Staff are provided with paid and unpaid leave benefits to support them and their family and enhance financial security. Paid time off accrual rates for full-time employees = 16 hours of annual leave per month and 10 hours of sick leave per month. Employees also receive paid time off for 11 legal holidays, jury duty, and bereavement leave. CSU’s Commitment to Campus offers employees a healthy work-life balance through a wide variety of programs, discounts, and special benefits. This includes Employee Study Privilege (nine free credits per year available through CSU, CSU Global, CSU Online Plus, and University of Northern Colorado), Family Tuition Scholarship Program (50% reduction in tuition), Discounted Veterinary Care, Wellness Membership Discounts, Volunteers in Public Schools Leave Program, Athletic Ticket Discounts, and much more! Visit https://hr.colostate.edu/current-employees/benefits/afap/ to learn more about working at CSU. This information is a summary of commonly used leaves and is not all inclusive of benefits offered at CSU.

Position Summary
CIRA is seeking a data lake expert as part of an initiative to develop a hybrid data lake with data from the open registry and in private storage. This position would architect and maintain the aforementioned data lake from the open registry and private data storage and provide information and technical support for users wanting to use the data lake. The position will work with end-users within the NWS to successfully utilize the data lake for projects that range from machine learning and statistical product development to web services. We are looking for a highly
motivated, goal-oriented individual, who loves technology and works well within a team and individually, and is client service focused. This position reports to the Programmer/Analyst.

**Decision Making**
Decision making depends on the analysis of the user requirements, software architecture constraints, or technical issues involved with each software build and update. The chosen implementation approach may need to be selected from many alternatives. This position involves working independently and coordinating with VLab and OSTI management and team members. Coordination is accomplished through scrums and weekly meetings. The individual will set priorities that correspond to the importance and/or urgency of particular upgrades and other work activities.

**Essential Job Duties**

**Leadership – 10%**
- Provide knowledge, guidance, expertise, consultation, and training on data lakes.
- Architect the NWS OSTI Data Lake.
- Develop the services to inventory, register, and retrieve data from the Data Lake.
- Work with various teams to help use the data lake in their applications.

**System Administration and Management – 80%**
- Develop automated techniques for managing the data lake.
- Help to migrate data from on-premises systems to the cloud-based data lake.
- Orchestrate management and administration of the NWS OSTI Data Lake.
- Provide cost analysis of the data lake and components.

**Documentation and Reporting – 10%**
- Complete annual reports documenting the status of existing projects.
- Summarize research results for sponsors and the broader weather community.
- Prepare software documentation in collaboration with other team members.

**Required Qualifications:**
In your cover letter, please specifically address EACH required qualification as it relates to your experience. A cover letter that fails to address the required qualifications for this position may not be considered further after review by the search committee.

- Bachelor’s Degree in Computer Science, Meteorology, or related technical field of study PLUS
  - Ten (10) years of relevant work experience OR
- Master’s Degree in Computer Science, Meteorology, or related technical field of study PLUS
  - Five (5) years of relevant work experience.
- Experience with Cloud, preferably AWS.
- Experience with AWS Data Lake architecture and maintenance including the development of services to inventory, register, and retrieve data.
- High degree of initiative and excellent communication skills, demonstrated via cover letter.
- Willingness to learn new skills for professional growth within the position.
- Willingness to adhere to design, coding, and other project conventions.
- Proven leadership abilities, including experience leading development projects.
- Must be reliable, self-motivated, and comfortable working in an agile and creative team environment.
- Must be legally authorized to work in the United States by the start date. CIRA will not sponsor a visa for this position now or in the future.
- Ability to pass a National Agency Check with Inquiries (NACI, federal background check) because the job is located inside a federal building.
Preferred Qualifications:
In your cover letter, please specifically address the applicable preferred qualifications for this position. A cover letter that fails to address the preferred qualifications for this position may not be considered further after review by the search committee.

- Experience supporting and maintaining large projects.
- Experience with Infrastructure as Code (IaC) (Terraform and/or CloudFormation).
- Experience with the following AWS services: S3, Glue, Batch, Lake Formation, Athena, and EMR.
- Experience with continuous integration (e.g., Jenkins).
- Experience with code review.
- Experience with issue tracking, and revision control (specifically Git).
- Experience with machine learning.
- Experience with the software development process.
- Experience with databases (relational and noSQL).
- Experience developing web services leveraging Java or Python.
- Experience troubleshooting complicated technical issues.
- Experience handling multiple tasks and meeting project deadlines.
- Experience supporting and maintaining a highly-available system.
- Experience coordinating projects or research between multiple groups or agencies.
- Knowledge of operational meteorology, NWS operations, AWIPS, and NWS users and partners.
- Knowledge of NWS datasets and workflows.

Annual Salary Range: $120,000 - $150,000 commensurate with experience and qualifications.

Background Check:
Colorado State University strives to provide a safe study, work, and living environment for its faculty, staff, volunteers and students. To support this environment and comply with applicable laws and regulations, CSU conducts background checks. The type of background check conducted varies by position and can include, but is not limited to, criminal history, sex offender registry, motor vehicle history, financial history, and/or education verification. Background checks will also be conducted when required by law or contract and when, at the discretion of the University, it is reasonable and prudent to do so. In addition the individual in this position must be able to pass a National Agency Check with Inquiries (NACI, federal background check) because this position is located in a federal facility.

Commitment to Diversity and Inclusion:
Reflecting departmental and institutional values, candidates are expected to have the ability to advance the Department's commitment to diversity and inclusion.

Applications will be accepted until all positions are filled; however, to ensure full consideration applications should be submitted by 11.59pm, August 14, 2023. Apply electronically by clicking “Apply to this Job” at the following website: https://jobs.colostate.edu/postings/130772. References will not be contacted without prior notification of candidates. Please be sure to address the required and preferred qualifications in the cover letter, as relate to your professional experience. A cover letter that fails to address the required and preferred qualifications for this position may not be considered further after review by the search committee.