Position Summary:
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.

The primary goal in 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. CIRA and OSTI’s partnership has resulted in two significant accomplishments:

1. The development of the NOAA Virtual Laboratory (VLab), which is used by all line offices in NOAA, supports hundreds of communities, and nearly 2000 projects, and promotes development best practices throughout the organization. The VLab includes an enterprise portal (Liferay DXP) used for collaboration within NOAA as well as development tools and services, such as project and issue management (Redmine), code review (Gerrit) and revision control (Git and Subversion), and continuous integration and continuous delivery (Jenkins). As the creators, developers, and administrators of VLab, CIRA and OSTI have become the de facto experts on utilizing web technologies to collaborate and develop applications based on best practices, such as revision control, issue tracking, code review, and continuous integration.

2. OSTI and CIRA have become cloud leaders within the NWS. The partnership has focused on utilizing cloud technologies and tools leveraging Amazon Web Services (AWS) in combination with VLab, to solve development, testing, and training workflows for the STI Portfolio. These workflows focus on streamlining research to operations and include many aspects such as configuration management, development applications, and promoting DevOps. Research staff investigate these areas and prototype promising technologies. OSTI and CIRA’s cloud efforts are termed “VLab Cloud”. Within the VLab Cloud environment OSTI and CIRA currently support a wide range of clients (e.g., AWIPS Program, Warning Decision Training Division, Operations Proving Ground, Storm Prediction Center, NCEP EMC, STI Modeling, etc.), where we provide onboarding, administration, operations, maintenance, security, and cost support.

As part of this initiative to further expand collaboration with the NWS/OSTI, the individual in this position will report to the project Programmer/Analyst and serve as the focal point for all cloud related cost monitoring and help project managers understand cloud costs for NOAA’s VLab and OSTI/CIRA’s Cloud efforts. Specifically, the individual in this position will work with NWS staff to develop solutions to help visualize and manage cloud costs in the VLab Cloud and will support a number of activities including (a) Monitoring costs associated with cloud infrastructure; (b) Develop tools to visualize and alert for cost overruns; (c) Work with cloud engineers to produce cloud cost estimates; (d) Provide suggestions on methods to reduce cost; (e) Answer questions regarding cost of cloud resources. We seek a highly motivated, goal oriented individual who loves technology and works well within a team and individually and is client service focused.

Decision Making:
Decision making depends on the analysis of the user requirements, software architecture constraints, or technical issues involved with each cloud based project and the resultant cost profile. The chosen implementation approach may need to be selected from many alternatives. The individual in this position will
work independently and coordinate with VLab and OSTI management and team members via scrums and weekly meetings. The individual in this position will set priorities that correspond to importance and/or urgency of particular upgrades and other work activities.

**Essential Job Duties:**

**Cloud Cost Management – 80%**
- Develop tools to help visualize cloud architecture costs.
- Produce estimates of expected cost of cloud architecture and variants to provide project managers options during design phase.
- Actively monitor the cost of OSTI’s Cloud systems.

**Leadership – 10%**
- Provide knowledge, guidance, expertise, consultation, and training on cloud costs as they apply to cloud infrastructure.
- Work with various teams to help migrate applications to the cloud.

**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 5 years of practical technical experience in AWS OR Master’s Degree in Computer Science, Meteorology, or related technical field of study plus 2 years of practical technical experience in AWS;
- Experience in cloud cost estimating with AWS;
- Ability to pass a National Agency Check with Inquiries (NACI, federal background check) because the job is located inside a federal building.
- High degree of initiative and excellent communication skills.
- Willingness to learn new skills for professional growth within the position.
- Willingness to adhere to design, coding, and other project conventions.
- 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 of the position. CIRA will not sponsor a visa for this position now or in the future.

**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 CloudCheckr.
- Experience with AWS Cloud Billing.
- Experience with Infrastructure as Code (IaC) (Terraform and/or CloudFormation).
- Experience with the following AWS services: IAM, EC2, EBS, S3, Lambda, AWS CLI, Systems Manager, AWS Config, and AWS SDK.
- Experience with Elasticsearch.
- Experience with continuous integration (e.g., Jenkins).
- Experience with code review.
- Experience with Java or Python.
• Experience with the software development process.
• Experience with databases (relational and noSQL).
• Experience troubleshooting complicated technical issues.
• Experience handling multiple tasks and meeting project deadlines.
• Experience coordinating projects or research between multiple groups or agencies.
• Knowledge of operational meteorology, NWS operations, AWIPS, and NWS users and partners.

**Annual Salary Range:** $110,000 - $130,000 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, in the discretion of the University, it is reasonable and prudent to do so. In addition the individual in this position must be able to 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.

**Application Deadline:**
Applications will be accepted until the position is filled; however, to ensure full consideration applications should be submitted by 11:59 PM MT on July 30, 2023. For full position announcement and to apply, please click “Apply to this Job” at the following website: [https://jobs.colostate.edu/postings/130240](https://jobs.colostate.edu/postings/130240). NOTE: In your cover letter, please specifically address the required and preferred qualifications of this position. A cover letter that fails to address the qualifications of this position may not be further considered after review by the search committee.

Colorado State University is committed to providing an environment that is free from discrimination and harassment based on race, age, creed, color, religion, national origin or ancestry, sex, gender, disability, veteran status, genetic information, sexual orientation, gender identity/expression, or pregnancy in its employment, programs, services and activities, and admissions, and, in certain circumstances, marriage to a co-worker. The University will not discharge or in any other manner discriminate against employees or applicants because they have inquired about, discussed, or disclosed their own pay or the pay of another employee or applicant. Colorado State University is an equal opportunity and equal access institution and affirmative action employer fully committed to achieving a diverse workforce and complies with all Federal and Colorado State laws, regulations, and executive orders regarding non-discrimination and affirmative action. The Office of Equal Opportunity is located in 101 Student Services. The Title IX Coordinator is the Director of the Office of Title IX Programs and Gender Equity, 123 Student Services Building, Fort Collins, CO 80523-0160, (970) 491-1715, titleix@colostate.edu. The Section 504 and ADA Coordinator is the Director of the Office of Equal Opportunity, 101 Student Services Building, Fort Collins, CO 80523-0160, (970) 491-5836, oeo@colostate.edu. The Coordinator for any other forms of misconduct prohibited by the University’s Policy on Discrimination and Harassment is the Vice President for Equity, Equal Opportunity and Title IX, 101 Student Services Building, Fort Collins, Co. 80523-0160, (970) 491-5836, oeo@colostate.edu. Any person may report sex discrimination under Title IX to the Office of Civil Rights, Department of Education.