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) Meteorological Development Laboratory (MDL) Weather Information Applications Division 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.)

**Background**

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

CIRA and MDL’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 MDL have become the defacto experts on utilizing web technologies to collaborate and develop utilizing best practices such as revision control, issue tracking, code review, and continuous integration.

2) MDL 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 and testing workflows for the STI Portfolio. These workflows focus on streamlining research to operations and include many aspects including configuration management, development applications, promoting DevOps. Research staff investigates these areas and prototype promising technologies. MDL and CIRA’s Cloud efforts are termed “VLab Cloud”. Within the VLab Cloud environment MDL 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.

**Position Summary**

As part of this initiative to further expand collaboration with the NWS/MDL, the individual in this position serves as a cloud administrator and architect, supporting the growth, automation, and streamlining of NOAA’s VLab and MDL/CIRA’s Cloud efforts. This individual works with NWS staff to develop solutions for technical issues impacting VLab Cloud. Technical issues involve: (a) Cloud architecture; and (b) Maintaining a secure and up-to-date operational system. Specifically, this individual will support a number of activities including a) Setting up and configuring Cloud infrastructures (b) Provide Cloud support; c) Assisting in keeping Cloud services up to date and secure. Since MDL provides significant cloud support to the Advanced Weather Information Processing System (AWIPS) Program Office knowledge of the AWIPS system would be extremely beneficial. We are looking for a highly motivated, goal oriented individual, who loves technology and works well within a team and individually. This position reports to Senior Research Associate, Jason Burks.

**Decision Making Statement**

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 independent position involves work as well as coordination with VLab and MDL management once a week in a brief meeting to go over progress and possible enhancements to the overall web services development work to align with product releases. The individual will set priorities that correspond to importance and/or urgency of particular upgrades and other work activities.
Essential Job Duties

Leadership – 10%
- Provide knowledge, guidance, expertise, consultation, and training on AWS Cloud Services.
- Provide guidance and expertise on AWS cloud architecture.
- Work with various teams to help migrate applications to the cloud.

Applications Development and Administration – 80%
- Develop and provide cloud architecture and implementation.
- Migrate applications from on-premise to the Cloud.
- Assist with the management and administration of MDL’s Cloud systems.

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

Qualifications:

Required Qualifications:
- Bachelor’s Degree in Computer Science, Meteorology, or related technical field of study plus
- 10 years of practical technical experience programming in an object-oriented language
  OR
- Master’s Degree in Computer Science, Meteorology, or related technical field of study plus
- 5 years of practical technical experience programming in an object-oriented language
- At least 5 years of experience with the AWIPS II system, and in particular installation, and maintenance of the system
- Experience with Cloud, specifically Amazon Web Services (IAM, EC2, EBS, EFS, Lustre, S3, Lambda, RDS, AWS cli, and boto3/java AWS SDK)
- Proven leadership abilities, including experience leading development projects
- Ability to pass a National Agency Check with Inquiries (NACI, federal background check) because the job is located inside a federal building.

Desired Qualifications:
- High degree of initiative, excellent communication skills, and applicable systems and software development experience
- Ability to function well as an effective member of a project team where adherence to design, coding, and other project conventions are highly valued
- Experience supporting and maintaining large projects
- Familiarity with object-oriented concepts and design principles
- Experience with issue tracking, and revision control (specifically Git)
- Experience with continuous integration (e.g., Jenkins)
- Experience with Gerrit code review
- Experience with Python
- Experience developing software in a Linux, Windows, and/or Mac environment
- Experience setting up your own development environment, and using Integrated Development Environments (IDE), such as Eclipse
- Experience with System Administration with Centos/Redhat OS
- Familiarity with HTML, CSS, JavaScript, Ruby, Freemaker, XML, Apache HTTP, and Apache Tomcat
- Experience with databases (relational and noSQL)
- Experience with containerized systems such as Docker.
- Experience troubleshooting complicated issues
- Experience supporting and maintaining an operational system
- Must be reliable, self-motivated, and comfortable working in an agile and creative team environment
- Ability to handle multiple tasks and meet project deadlines, communicate effectively both verbally and in writing, and a willingness to learn new skills for professional growth within the position;
- Experience coordinating projects or research between multiple groups or agencies;
- Knowledge of operational meteorology, NWS operations, AWIPS, and NWS users and partners.
Applications will be accepted until all positions are filled; however, to ensure full consideration applications should be submitted by **11:59pm, Monday, November 29, 2021**. Apply electronically by clicking “Apply to this Job” at the following website: [https://jobs.colostate.edu/postings/95515](https://jobs.colostate.edu/postings/95515). 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.