Overview

The Cooperative Institute for Research in the Atmosphere (CIRA) at Colorado State University seeks to fill a professional scientific position designed to conduct collaborative research with the National Oceanic and Atmospheric Administration (NOAA) located at the Earth System Research Lab (ESRL), Global Systems Laboratory (GSL) in Boulder, CO. The position will be for a meteorologist/software engineer at NOAA/OAR/ESRL/GSL Evaluation and Decision Support (EDS) Division and Weather Information Systems Evolution Branch. The position will be in Boulder, CO at a Federal building and requires the ability to pass a National Agency Check with Inquiries (NACI, Tier 1 federal background check). Telework options will be considered.

Background

The Cooperative Institute for Research in the Atmosphere (CIRA) at Colorado State University (CSU) is a multi-million dollar research organization located on CSU's Foothills Campus in Fort Collins, Colorado. CIRA is a cooperative institute that is also a research department within CSU's College of Engineering, in partnership with the Department of Atmospheric Science. Its vision is to conduct interdisciplinary research in the atmospheric sciences by entraining skills beyond the meteorological disciplines, exploiting advances in engineering and computer science, facilitating transitional activity between pure and applied research, leveraging both national and international resources and partnerships, and assisting NOAA, Colorado State University, the State of Colorado, and the Nation through the application of our research to areas of societal benefit.

NOAA's Global Systems Laboratory (GSL) of the Earth System Research Laboratory (ESRL) is a federal science and research laboratory under NOAA’s Office of Oceanic and Atmospheric Research. GSL provides the National Weather Service (NWS) and the nation with environmental observing, prediction, computer, visualization, and information systems. These systems deliver data, forecasts, and predictions of weather, including severe weather events, within the next few minutes to weeks away. GSL is a leader in the applied research, directed development, and technology transfer of environmental data, models, products, and services that enhance environmental understanding with the outcome of supporting commerce, protecting life and property, and promoting a scientifically literate public.

Within GSL, the Evaluation and Decision Support Division (EDS) / Weather Information Systems Evolution Branch (WISE) is on the forefront in developing new systems for NWS forecasters (and other federal and international agencies) who require display of and interaction with real-time weather data for their forecast and warning operations, as well as to support Impact-Based Decision Support Services (IDSS). For example, a key function is the generation of warnings or hazard information for high-impact weather events such as tornadoes, hurricanes, and floods.

WISE has been tasked with the creation of a variety of science-based applications to enable forecasters to work more quickly and efficiently for both routine tasks and in critical weather situations. The host platform for these applications is the 2nd generation of the Advanced Weather Interactive Processing System (AWIPS II). It uses service-oriented architecture and is written in Java and Python using the Eclipse framework.

Position Summary

The position will serve as a meteorologist/software engineer at NOAA/OAR/ESRL/GSL and will have direct interaction with scientists and developers within NOAA as well as partners outside of NOAA. This includes; NCEP centers, NWS weather forecast offices, NOAA research facilities, academia, and the NWS Office of
Central Processing. Expertise in weather analysis and forecasting will be applied to the development of software applications.

The individual in this position will work in collaboration with other scientists and software developers as well as the broader community, designing, developing, testing and refining applications for operational weather entities. Development will initially occur within the Hazard Services framework in AWIPS II, but may also include other web-based platforms. The near focus will be on applications and extensions to services that support forecasting and warning services, as well as IDSS, for diverse phenomena such as tropical storms and associated storm surge, thunderstorms, winter storms, flooding, as well as new ground-breaking paradigms involving the incorporation of continuous and probabilistic information. This position will report to the Sr Scientific Analyst.

**Decision Statement**

Decision making depends on the scale of each assignment and issues involved; the chosen course of action may need to be selected from many solutions, dependent upon the end user and technological requirements, and may require coordination with other members of the project team to reach a final decision. The individual in this position makes many decisions concerning such things as interpretation of data, planning work, and/or refining methods and techniques.

**Essential Job Duties**

**Software Development for Weather Applications (90%)**

- Utilize operational forecasting concepts and best-practices to develop advanced software applications on AWIPS II and web-based platforms using primarily java and python.
- Work with a small team of scientists and software engineers to develop innovative, scientific solutions to modernize software used in environmental services and warning applications and to support IDSS.
- Participate in group discussions and activities associated with software development, numerical weather prediction systems, and remote sensing systems in the context of environmental analysis and prediction.

**Dissemination of Results (5%)**

- Prepare software documentation in collaboration with other team members
- Participate in proposal writing activities
- Apply basic principles of project management to ensure deliverables and milestones are met on time, project scope is appropriately aligned with statements of work, and timelines are adhered to.

**Documentation and Reporting (5%)**

- Complete annual reports documenting the status of existing projects;
- Complete performance reviews and feedback with advisors.

**Required Job Qualifications**

Please address the required qualifications in the cover letter.

- Ability to pass a National Agency Check with Inquiries (NACI, Tier 1 federal background check) because the position is located inside a Federal building; A U.S. Citizen or Green Card Holder. CIRA will not sponsor a visa for this position.
- B.S. in computer science, atmospheric science, meteorology, or a related field; AND
At least 5 years of professional experience in which your primary job was developing software applications for the weather industry using java and python

At least 1 year of professional experience developing on the AWIPS II platform

Experience working with complex, real-time, environmental datasets including observations and numerical weather prediction output using common meteorological data formats, such as BUFR, NetCDF, HDF, and GRIB, etc.

Formal coursework in computer science and/or computer programming

Ability to work in an agile, fast-paced environment with production deadlines and deliverables

Demonstrated skill in communicating effectively with scientists of diverse backgrounds on technical details of work plans, and present results accurately and clearly in both oral and written form.

Desired Job Qualifications

- An understanding of operational meteorology
- Experience with software version control (e.g. git) for software development collaboration
- Experience maintaining robust community code in a real-time environment, including formal code reviews and check-in processes
- M.S. in computer science, atmospheric science, or a related field;
- Demonstrated skill in performing tasks requiring organization and attention to detail.

Background Check:

Colorado State University is committed to providing a safe and productive learning and living community. To achieve that goal, we conduct background investigations for all final candidates being considered for employment. Background checks may include, but are not limited to, criminal history, national sex offender search, and motor vehicle history. In addition, the final candidate will be required to pass a National Agency Check with Inquiries (NACI, Tier 1 federal background check) because the job is in a federally occupied building.

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 all positions are filled; however, to ensure full consideration applications should be submitted by 11.59pm, MST, Monday, December 21, 2020. Apply electronically by clicking “Apply to this Job” at the following website https://jobs.colostate.edu/postings/81872 References will not be contacted without prior notification of candidates. Please be sure to address the required and preferred qualifications in the application materials.