Research Associate III  
(Statistical Post-processing Meteorologist/Developer)  
19-125

The Cooperative Institute for Research in the Atmosphere (CIRA) at Colorado State University (CSU) seeks to fill a full-time professional scientific position for its collaborative research and development with the Statistical Modeling Branch in the Meteorological Development Laboratory (MDL) of the National Weather Service (NWS) in downtown Silver Spring, MD. This position is located in a federal facility and requires the ability to pass a National Agency Check with Inquiries (NACI) federal background check for building access. This position will report to a Research Associate who helps oversee collaboration efforts with the MDL.

Background

CIRA and the MDL have engaged in a number of successful collaborations in a wide variety of scientific and software development endeavors, one of which is the Statistical Modeling Branch’s Localized Aviation Model Output Statistics (MOS) Program (LAMP), the goal of which is to produce objective forecast guidance products based on the statistical post-processing of Numerical Weather Prediction models. Such guidance is used by NWS Weather Forecast Offices, the NWS Aviation Weather Center, and the Federal Aviation Administration in support of aviation forecasting and services.

The LAMP team develops statistical techniques that improve the suite of NWS objective forecast guidance products, and it writes the corresponding software to implement those methods. This is done both for station-based and gridded LAMP guidance, where the station-based guidance is one of the inputs to gridded LAMP, which is itself an input to the NWS’s National Blend of Models.

The individual in this position will help develop and update the LAMP system for the benefit of the NWS and the aviation community by improving both station-based and gridded LAMP guidance for aviation-related weather elements.

Responsibilities

- Software Development (70%)
  - Assist in adapting the LAMP system to include ingesting and storing observations and model data for statistical analysis.
  - Produce and maintain an archive of data for use in development and testing of the LAMP system.
  - As needed, modify the LAMP system to develop new statistical equations and thresholds, and evaluate the results of those equations and thresholds to determine improvement.

- Collaborative Research (20%)
  - Collaborate with end users, including NWS forecasters and the NWS Aviation Weather Center, and assist in collaborating with other groups and agencies. (On an as-needed/occasional basis, such collaboration may involve travel to meetings...
• Assist with the preparation and transition of the improved station-based and gridded LAMP systems to operations at the National Centers for Environment Prediction’s Central Operations.
• Assist with making the improved guidance available for use in the National Blend of Models.

● Documentation and Reporting (10%)
  ○ Prepare software documentation in collaboration with LAMP team members.
  ○ Prepare status reports as required by the project sponsor and CIRA.
  ○ Prepare and deliver technical talks and presentations as requested.

**Required Qualifications**

- This position is located in a federal facility and requires the ability to pass a National Agency Check with Inquiries (NACI) federal background check for building access.
- A Bachelor’s degree in Atmospheric Science, Meteorology, or a related physical science with 5 years of relevant experience OR a Master’s degree in Atmospheric Science, Meteorology, or a related physical science with 2 years of relevant experience;
- Basic knowledge of statistics, including familiarity with statistical methods used in atmospheric sciences, e.g., linear regression and typical verification scores;
- Knowledge of NWS operations, products, and services;
- Demonstrated experience in the design and development of scientific computer programs using FORTRAN;
- Knowledge, skill, and/or experience in data modeling and the management of large scientific data sets;
- Experience working on supercomputers;
- Experience with GIS packages, e.g., ArcGIS;
- Experience with image display software for displaying meteorological fields;
- Experience with Microsoft Office (Word, PowerPoint, Excel);
- Demonstrated oral and written communication skills.

**Desired Qualifications**

- Experience post-processing Numerical Weather Prediction model output;
- Experience with Linux/Unix systems and shell scripting;
- Experience with software version control such as Subversion and/or Git;
- Experience working with Gerrit code review and issue tracking software such as Redmine;
- Knowledge, skill, and/or experience in standard meteorological data formats, e.g., GRIB2 and NetCDF;
- Knowledge, skill, and/or experience in community source software development;
Knowledge, skill, and/or experience in programming languages that are commonly used in parallel computing and operational supercomputing systems, e.g., C and C++;

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 among multiple groups or agencies;

Knowledge of operational meteorology as well as NWS users and partners.

Salary
Salary is commensurate with qualifications and experience.

Background Check
CSU is committed to providing a safe and productive learning and living community. To achieve that goal, CSU conducts 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, this position is located in a federal facility and requires the ability to pass a National Agency Check with Inquiries (NACI) federal background check for building access.

Commitment to Diversity and Inclusion
Reflecting both CSU’s and CIRA’s values, candidates are expected to uphold CIRA’s commitment to diversity and inclusion.

Application Deadline
Applications will be accepted until the position is filled. To ensure full consideration applications should be submitted by midnight Sunday, January 5, 2020. Apply electronically by clicking “Apply to this Job” at the following website: https://jobs.colostate.edu/postings/73375 References will not be contacted without prior notification of candidates. Please be sure to address the required qualifications in the cover letter. CSU is an EO/EA/AA employer and conducts background checks on all final candidates.