Research Associate III
User Experience Researcher
20-112

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 an experienced social or information scientist with a background in user experience and human-computer interaction to support the development of weather-related forecast and decision support systems within the Evaluation and Decision Support (EDS) Division and Forecast Impact and Quality Assessment Services (FIQAS) Branch. Office 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).

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.

The Forecast Impact and Quality Assessment Services (FIQAS) Branch within the Evaluation and Decision Support (EDS) Division of GSL is seeking an experienced social or information scientist with a background in user experience and human-computer interaction to support the
development of weather-related forecast and decision support systems, design of field campaigns to gather user feedback, and evaluation and application of feedback to improve information transfer while optimizing graphical and functional design. In addition, the individual will assist the FIQAS Branch to understand the decisions faced by weather product users and the role forecasts play in those decisions. That information will be translated into improved weather forecast verification products that positively impact the decision making process.

**Position Overview**
The individual in this position will collaborate with stakeholders and other team members to conduct research on how various partners use weather information to make decisions, and assist in the design of weather-related software applications and systems. They will be responsible for development of field campaigns, gathering user input, data analysis, and communicating findings in technical talks and reports. They will also work with meteorologists and software engineers to incorporate techniques in verification and decision support tools. The individual will report to a Sr Research Associate.

**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.

**Position Responsibilities**

**Design, Implementation, and Analysis of User Information 50%**
- Communicate with users, including decision makers such as weather forecasters and emergency managers, to learn how weather information is used in the decision making and risk assessment/communication processes.
- Design studies and field campaigns that measure user experience and human-machine interaction with weather products and software applications used in decision support.
- Conduct studies and field campaigns to gather data from participants through in person and online methods.
- Analyze the results of studies to identify themes in requirements and methods for more efficient information transfer.
- Work collaboratively with other researchers, software engineers, and developers.
- Summarize findings and conclusions in formal written reports and oral presentations to product developers and stakeholders.
- Present research status and findings to sponsors and peer organizations, and participate in workshops and conferences.
Collaborative Research 40%

- Work with meteorologists and software engineers to design new decision support displays and systems that incorporate feedback from field studies, testbed activities, focus groups, and other formal and informal methods used for gathering feedback.
- Research new decision support methods that enable greater understanding and transfer of information.
- Serve as an active participant during team meetings to evolve verification techniques and critique team members’ internal prototypes.
- Present accomplishments to sponsors and peer organizations, and participate in workshops and conferences.

Documentation and Reporting 10%

- Prepare software documentation in collaboration with other team members.
- Summarize research results for sponsors and broader research community.
- Prepare manuscripts for publication, based on these research results.

Required Qualifications:

- Ph.D. in relevant field described below; or M.S. in relevant field described below plus two (2) years relevant work experience:
  - Formal education in a relevant field such as human centered design, human-computer interaction, user experience, usability engineering, cognitive psychology, risk communication or equivalent hands-on experience to demonstrate an understanding of usability theory, methods, and practices.
- Demonstrated experience in user experience and human-computer interaction studies.
- Demonstrated knowledge of risk assessment and risk communication.
- Demonstrated skill in data analysis and interpretation of statistical information.
- Demonstrated experience with end-to-end product research and design, ideally on technical software and/or software for physical scientists.
- Demonstrated ability to manage a project and to execute end-to-end design work from sketching to high-fidelity prototyping at both the feature and overall-product levels using mixed-methods user experience research, including foundational, strategic, formative, evaluative, and tactical approaches.
- Demonstrated ability to work directly with the user community, partners, and developers to understand user needs, define product vision and road map, and translate user needs into intuitive software experiences.
- Demonstrated ability to effectively communicate research findings (including visual representations of data, highlight videos, slide decks, written reports, etc.).
- A deep understanding of the landscape of user experience research and design tools and software.
- Ability to pass a National Agency Check with Inquiries (NACI, Tier 1 federal background check) because the position is located inside a Federal building;
- Must be legally authorized to work in the United States by the start date. CIRA will not sponsor a visa for this position now nor in the future.

**Desired Qualifications:**

- A portfolio of research and/or design work executed by yourself or a team you contributed to, that showcases exceptional research and design craft on software used in an operational or commercial setting.
- Familiarity with programming languages, or have an understanding of basic front-end code in HTML, CSS and JavaScript.
- Familiarity with at least one of the following development platforms: Atom, Notepad++, GitHub, VS Code, Terminal/Command Prompt, NetBeans, Android Studio, Xcode.
- Familiarity with at least one of the following design platforms: Adobe Creative Cloud, Sketch, Figma, InVision, Photoshop.
- Professional experience in the weather industry.

**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 midnight **Sunday, August 2, 2020**. Apply electronically by clicking “Apply to this Job” at the following website: [https://jobs.colostate.edu/postings/78726](https://jobs.colostate.edu/postings/78726). References will not be contacted without prior notification of candidates. Please be sure to address the required qualifications in the application materials.