Research Associate III
User Experience Researcher and Designer
22-116

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-Designer and/or Researcher with a background in user experience (UX), human-centered design, human computer interaction, or human factors research to support the development of weather-related forecast and decision support systems within the Weather Informatics and Decision Support (WIDS). **This position will require onsite presence at the office, 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) 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 Weather Informatics and Decision Support Division of GSL is seeking an experienced Designer and/or Researcher with a background in user experience (UX), human-centered design, human computer interaction, or human factors research to support the development of weather-related forecast and decision support systems, gather user feedback, and evaluate and apply

feedback to the prototype's design. In addition, the individual will assist the WIDS Division 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 user 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 creating research plans, gathering user feedback through user interviews and usability tests, analyzing research results and communicating findings to the team and external stakeholders. They will also work with meteorologists and software engineers to incorporate techniques in verification and decision support tools. The individual will be part of an expanding social science team at GSL. The individual will report to the Forecast Operations Specialist.

Position Responsibilities

Collaborative Research 50%
- Plan, recruit, and conduct user interviews and usability testing with potential prototype users to gather behavioral and attitudinal data from participants through in-person and remote methods. Occasional travel will be required for the user interviews.
- Create research plans that investigate the user experience weather products and software applications used in decision support.
- Analyze the results of studies to identify themes in requirements and methods for more efficient data visualization and communication.
- Help define and refine user personas, user stories, storyboards, and product roadmaps.
- Present and communicate insights in order to help shape long-term product strategy.
- Research new decision support methods that enable greater understanding and transfer of information.
- Conduct literature reviews to contextualize existing decision support research already conducted in the industry.
- 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, Implementation, and Analysis of User Information 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.

- Serve as an active participant during team meetings to review and critique internal prototypes.
- Collaborate with other team members to help aid the software development process, such as participating in Agile sprint planning and release testing.
- Determine information architecture and create sitemaps.
- Create prototypes, mockups, and wireframes.

Documentation and Reporting 10%
- Summarize research results for project stakeholders and broader research community.
- Create user research and design deliverables throughout the software lifecycle to support the development team.
- Present research status, findings, and accomplishments to sponsors and peer organizations, and participate in workshops and conferences.

Required Qualifications:

- M.S. in relevant field described below plus two (2) years relevant work experience; or B.S. in relevant field described below plus five (5) 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 applying user experience research methods.
- Demonstrated experience with end-to-end product research and design, ideally on technical software and/or software for physical scientists.
- A deep understanding of user experience research and design tools and methods.
- 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.).
- 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:

- An online portfolio of research and/or design work executed by yourself or a team you contributed to, that showcases exceptional research and design craft.

- Demonstrated knowledge of risk assessment and risk communication.
- Demonstrated skill in data analysis and interpretation of statistical information.
- Demonstrated leadership skills and the 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.
- Familiarity with basic front-end code in HTML, CSS and JavaScript.
- Familiarity with at least one of the following design platforms: Adobe Creative Cloud, Sketch, Figma, InVision.
- Familiarity with accessibility and web design best practices.
- Experience in the weather industry.
- Willing and able to come up to speed quickly in a complex domain. You are curious about weather and improving how it's communicated to users.
- Comfortable being a UX team-of-one, working on a small development team with lean processes, and making decisions without all the information available.
- Demonstrated ability of taking complex data and information and communicating it simply and concisely.