Research Associate - WoFS Software Engineer

Position Description

The Cooperative Institute for Severe and High-Impact Weather Research and Operations (CIWRO) at The University of Oklahoma seeks a Software Engineer to support a demonstration of NOAA's Warn-on-Forecast System (WoFS) in collaboration with NOAA's National Severe Storms Laboratory (NSSL). The position focuses on adapting the existing cloud-based WoFS prototype for several Department of War (DoW) installations in the contiguous United States, developing probabilistic hazardous-weather products, and evaluating their value for mission-relevant decisions. The position is located at the National Weather Center in Norman, Oklahoma.

Overview

CIWRO and NSSL have a longstanding collaboration in storm-scale modeling, data assimilation, ensemble forecasting, and research-to-operations transitions. WoFS is a rapidly updating ensemble prediction system that provides location-specific probabilistic guidance for severe storms, damaging winds, hail, heavy rainfall, flash flooding, and other high-impact weather. The project will configure and demonstrate the mature WoFS prototype in a non-operational environment.

The successful candidate will support cloud-based real-time and near real-time WoFS experiments, automate data and prediction processing, build a browser-based demonstration display, and verify WoFS guidance against observations and baseline products used by DoW partners. The existing demonstration framework uses Microsoft Azure for scalable computing, storage, and automated workflows.

Job Responsibilities

- Configure and refine the existing WoFS prototype for selected CONUS demonstration domains and support active-weather experiments
- Develop and maintain automated pipelines to acquire, quality-control, process, and archive radar, satellite, conventional observations, model data, and forecast products
- Create hazard-specific probabilistic products and threshold-exceedance guidance for DoW-relevant weather decisions
- Adapt the existing WoFS browser-based display and visualization tools; incorporate stakeholder feedback on product usability and decision relevance
- Design post-processing and verification workflows to compare WoFS products with observations and existing partner forecast guidance
- Collaborate with DoW partners, project leadership, and software developers to support demonstration planning, post-event reviews, and technology transition

Qualifications

- Bachelor's or Master's degree in Computer Science, Computer Engineering, Software Engineering, or related field with at least two years of relevant full-time professional experience
- Strong programming experience with Python and a modern compiled or object-oriented programming language (e.g., C/C++ or Java)
- Experience with Microsoft Azure or other cloud platforms; high-performance or distributed computing; scalable storage and automated workflows
- Experience with Linux/Unix environments, Git, container technologies (Docker/Apptainer), automated testing, and continuous integration/deployment
- Ability to research, troubleshoot, and independently solve complex software and data-processing problems
- Ability to meet applicable project computing-system access requirements, which **requires U.S. citizenship or permanent-resident status**

Benefits

Joining our team comes with numerous benefits, including:

- Competitive salary based on experience and comprehensive university benefits (http://hr.ou.edu/).
- Generous paid leave, encompassing 15 paid holidays and 22 hours of paid time off per month.
- Reduced membership rates at The University of Oklahoma's state-of-the-art fitness and aquatic center (https://www.ou.edu/far).

Application process

Email applications to ciwro-careers@ou.edu with the subject line "ATTN: WoFS engineer" Include a cover letter describing your interest and qualifications, an up-to-date resume/CV, and the names and contact information of three professional references. Applications will be accepted until the position is filled.

The University of Oklahoma is an Equal Opportunity/Affirmative Action employer.