Research Associate II or III
Database Developer
23-130

Overview
The Cooperative Institute for Research in the Atmosphere (CIRA) at Colorado State University (CSU) seeks to fill a full-time database developer position for its collaborative research and development as a Cooperative Institute with the Weather Information and Applications Division of the National Oceanic and Atmospheric Administration (NOAA) National Weather Service (NWS) Meteorological Development Laboratory (MDL) in Silver Spring, MD. The position is for a database developer whose background includes enterprise-level relational database design and development. This position is located in a federal facility in Silver Spring, MD and requires the ability to pass a National Agency Check with Inquiries (NACI) Tier 1 federal background check for building access. The office will be in Silver Spring; however, the option exists to work remotely from your home/office with periodic coordination meetings in Silver Spring.

Background
CIRA is a multi-million-dollar research organization located on CSU's Foothills Campus in Fort Collins, CO. 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 the nation, the NWS, the State of Colorado, and CSU through the application of its research to areas of societal benefit.

The collaboration between CIRA and the MDL centers on providing technical expertise to the MDL by keeping abreast of current and upcoming technologies and applying them to CIRA and the MDL. This focus includes investigating new techniques that can be used in the next generation of operational forecast and guidance products; designing and developing operational decision support services; providing a framework to foster innovation and science sharing while promoting best practices; and helping streamline the Research to Operations (R2O) pipeline. Through this partnership, CIRA has been an integral part of key projects highlighted in the NWS Weather-Ready Nation Roadmap.

Position Overview
The Weather Information and Applications Division of the MDL seeks a Database Developer to work on the Impact-based Decision Support Services (IDSS) Management System (IMS) project. This project will create for the NWS a set of nationally consistent and operationally supported tools for IDSS.

This position requires prior experience in enterprise-level relational database design and development. In collaboration with the project team, the individual in this position will help design, develop, test, refine, and document the database that will be used to store and manage NWS partner data, the weather-related impacts of concern to those partners, those impacts’ time frames, and other related information. The database will backend both a browser-based graphical user interface as well as an API. The flow of engineering information will be bidirectional, as the individual in this position should have sufficient experience to help guide Java software development that results in more optimal, higher performance database design and usage. The work will include participating in twice-weekly development discussions, and semi-annual in-person meetings may take
place in Silver Spring. The work may also involve responding to ad hoc requests from the project team and the project sponsor, e.g., providing database performance metrics.

This position reports to a CIRA Senior Software Engineer who also works on the project.

This position will be classified Research Associate II or III according to the credentials of the finalist selected for hire as follows:

- For position title Research Associate II: B.S. in computer science, engineering, or a related field AND 3+ years’ experience designing and developing enterprise-level, relational databases –OR-- M.S. in computer science, engineering, or a related field

- For position title Research Associate III: B.S. in computer science, engineering, or a related field AND 5+ years’ experience designing and developing enterprise-level relational databases –OR-- M.S. in computer science, engineering, or a related field AND 2+ years’ experience designing and developing enterprise-level relational databases –OR-- Ph.D. in computer science, engineering, or a related field

### Decision Making

**RA II**
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.

**RA III**
Decision making depends on the analysis of the user requirements, software architecture constraints, or technical issues involved with each software development activity; the chosen implementation approach may need to be selected from many alternatives. This position normally receives little instruction in day-to-day work and receives general guidance on the overall software development work conducted. The individual will set priorities that accurately reflect the relative importance of particular software development and other work activities as well as established software release deadlines.

### Position Responsibilities

**Database Development —90%**
- Working with the project team, design, develop, test, and refine the IMS database
- As needed and collaborating with the project team, upgrade the IMS database’s underlying frameworks, e.g., upgrade PostgreSQL from version X to version Y
- Administer the IMS database in the development and QA environments
- Participate in project meetings

**Documentation and Reporting—10%**
- In collaboration with the project team, document the IMS database
• As needed or requested, give or assist with presentations related to IMS
• As needed or requested, provide status reports to CIRA and/or the project sponsor

Required Qualifications

RA II Requirements
B.S. in computer science, engineering, or a related field AND
3+ years’ experience designing and developing enterprise-level, relational databases.
    OR
M.S. in computer science, engineering, or a related field

RA III Requirements
B.S. in computer science, engineering, or a related field AND 5+ years’ experience designing and developing
enterprise-level relational databases.
    OR
M.S. in computer science, engineering, or a related field AND 2+ years’ experience designing and developing
enterprise-level relational databases.
    OR
Ph.D. in computer science, engineering, or a related field

Required qualifications for both classifications
• Experience developing on Linux/Unix systems.
• Experience using Java
• Must be legally authorized to work in the United States by the start date. CIRA will not sponsor a visa for
  this position now or in the future.
• Ability to pass a National Agency Check with Inquiries (NACI) Tier 1 federal background check because
  the position is located inside a federal facility.

Desired/Preferred Qualifications
• Experience with the following methodologies, technologies, and tools:
  ○ Agile
  ○ Amazon Web Services / Cloud computing
  ○ Bash
  ○ Docker
  ○ Flyway
  ○ Git
  ○ Hibernate
  ○ Java Persistence Architecture
  ○ Java Topology Suite
  ○ Jenkins
  ○ Maven
  ○ PostGIS
  ○ PostgreSQL
  ○ Slack
• Experience working as a member of a small (3-6 person) team
• Experience adhering to software development best practices

To ensure full consideration applications should be submitted by 11.59pm MT Monday, July 31, 2023

Apply electronically by clicking “Apply to this Job” at the following website: https://jobs.colostate.edu/postings/128498. References will not be contacted without prior notification of candidates. In your cover letter, please specifically address the required and preferred qualifications of this position. A cover letter that fails to address the required and preferred qualifications of this position may not be considered further after review by the search committee. CSU is an EO/EAA employer and conducts background checks on all final candidates.