Overview
The Cooperative Institute for Research in the Atmosphere (CIRA) at Colorado State University (CSU) seeks to fill a full-time database engineering 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 engineer whose background includes enterprise-level PostgreSQL database design and development using the Java Persistence Architecture (JPA). 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 Engineer 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 PostgreSQL database design and development using the Java Persistence Architecture. 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 Research Associate who also works on the project.

**Decision Making**

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**

**Database Engineering—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**
- 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
- B.S. in computer science or software engineering AND
- 3+ years’ experience designing and developing enterprise-level databases, with 1+ years of that experience being in PostgreSQL.
- 1+ years’ experience designing, developing, and optimizing JPA 2.0+ in enterprise applications
- 1+ years’ experience developing on Linux/Unix systems
- 1+ years’ experience using Java 11+
- 1+ years’ experience using Git
- 1+ years’ experience using Maven

**Desired/Preferred Qualifications**
- M.S. in computer science or software engineering
- Experience with the following methodologies, technologies, and tools:
Agile
Amazon Web Services / Cloud computing
Bash
Docker
Flyway
Hibernate
Java Topology Suite
Jenkins
PostGIS
PostgreSQL’s JSONB data type
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 Friday, January 6, 2023

Apply electronically by clicking “Apply to this Job” at the following website: https://jobs.colostate.edu/postings/115362. 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.