

Research Associate II
GDOC Algorithm Integration Specialist
21-112

The GeoCarb Data Operations Center (GDOC) at Colorado State University's Cooperative Institute for Research in the Atmosphere (CIRA) will be responsible for generating the official data products for NASA's GeoCarb mission after launch in 2023. To do so, the GDOC is currently developing a data processing system that incorporates software science applications supplied by internal and external developers. The individual in this position will report to the GDOC Lead and contribute to the construction of the data processing system and collaborate with GDOC and external algorithm teams to develop and implement the science applications into the data processing system.

Decision Making:

The individual in this position will work both independently and collaboratively with GDOC team members and external developers to build and implement software applications and execute workflows. Software application specifications and code will be reviewed and approved by appropriate stakeholders prior to implementation.

Essential Job Duties:

Pipeline Application Ownership (40%)

- maintain and upgrade existing software applications for the production of GDOC-owned data products and the data processing pipeline;
- develop new software applications as necessary.

System Development (40%)

- work with external scientists and developers to integrate their software applications into the data processing pipeline;
- help identify, research, and develop improvements for processes and system components in order to enhance manageability, provide better service, or increase the scalability of GDOC resources.

Data Processing System Operation and Monitoring (20%)

- operate the science data pipeline Continuous Integration/Continuous Deployment (CI/CD) process for integration testing and the production of science test datasets;
- troubleshoot data ingest and processing issues.

Required Qualifications:

Please detail each of these items in your cover letter.

- Bachelor's Degree in Atmospheric/Earth/Space/Computer Science or related field plus 4 years of experience in software development, or Master's Degree in Atmospheric/Earth/Space/Computer Science or related field plus 1 year of experience in software development;
- experience with Python programming;
- experience with at least one low-level programming language (e.g., C/C++, Fortran 90 or newer);
- experience using Git for distributed version control;
- experience using relational databases (e.g., MySQL, PostgreSQL) and knowledge of SQL;
- experience working in the GNU/Linux/Unix Operating System;
- experience with Shell scripting (e.g, bash, tcsh, csh);
- experience with technical writing;
- experience working both collaboratively and in an independent, unsupervised manner;
- excellent verbal and written communication skills.

Preferred Qualifications:

Please highlight applicable preferred qualifications in your cover letter.

- experience working with Earth science data and associated formats (e.g., NetCDF, HDF-4/5, GRIB);
- experience in the development and use of visualization tools (e.g., Python, IDL, MATLAB, etc.);
- experience using CI/CD workflows;

- experience using Linux containers (e.g., Docker, Singularity);
- experience working on High Performance Computing (HPC) systems.

Background Check:

Colorado State University (CSU) strives to provide a safe study, work, and living environment for its faculty, staff, volunteers and students. To support this environment and comply with applicable laws and regulations, CSU conducts background checks. The type of background check conducted varies by position and can include, but is not limited to, criminal (felony and misdemeanor) history, sex offender registry, motor vehicle history, financial history, and/or education verification. Background checks will be conducted when required by law or contract and when, in the discretion of the university, it is reasonable and prudent to do so.

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 and How to Apply:

Applications will be accepted until the position is filled. References will not be contacted without prior notification of candidates. Apply electronically by clicking “Apply to this Job” at the following website: <https://jobs.colostate.edu/postings/89443>. NOTE: 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 further considered after review by the search committee.

Colorado State University is committed to providing an environment that is free from discrimination and harassment based on race, age, creed, color, religion, national origin or ancestry, sex, gender, disability, veteran status, genetic information, sexual orientation, gender identity or expression, or pregnancy and will not discharge or in any other manner discriminate against employees or applicants because they have inquired about, discussed, or disclosed their own pay or the pay of another employee or applicant. Colorado State University is an equal opportunity/equal access/affirmative action employer fully committed to achieving a diverse workforce and complies with all Federal and Colorado State laws, regulations, and executive orders regarding non-discrimination and affirmative action. The Office of Equal Opportunity is located in 101 Student Services. The Title IX Coordinator is the Executive Director of the Office of Support and Safety Assessment, 123 Student Services Building, Fort Collins, CO 80523 -2026, (970) 491-7407. The Section 504 and ADA Coordinator is the Executive Director of Human Resources and Equal Opportunity, Office of Equal Opportunity, 101 Student Services Building, Fort Collins, CO 80523-0160, (970) 491-5836.