

**Research Associate II/III
Python Developer
23-149**

Position Summary:

The Cooperative Institute for Research in the Atmosphere (CIRA) at Colorado State University (CSU) seeks to hire a Research Associate to work on the CSU Foothills Campus, located 5 miles Northwest of the CSU main campus. The individual in this position will support multiple projects at CIRA and will focus upon projects funded by the Office of Naval Research (ONR). They will work as part of a small, multi-institutional team to develop, maintain, and operate the Geolocated Information Processing System (GeoIPS). They will also assist CIRA scientists with integration of their scientific algorithms into GeoIPS.

GeoIPS is a plugin-based Python application for manipulating geolocated data to produce imagery and scientific data sets. It is currently in operational use by the US Navy and has been deployed at some NOAA institutions. GeoIPS is currently undergoing significant development in support of multiple ONR-funded projects.

This position will allow flexible work arrangements including hybrid office/telework, and 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:
 - Bachelor's degree in computer science, software engineering, or a related technical field PLUS 3-4 years of professional software development experience. –OR–
 - Master's Degree in computer science, software engineering, or a related technical field.
- For position title Research Associate III:
 - Bachelor's degree in computer science, software engineering, or a related technical field PLUS 5 or more years of professional software development experience –OR–
 - Master's Degree in computer science, software engineering, or a related technical field PLUS 2 or more years of professional software development experience –OR–
 - Ph.D. in computer science, software engineering, or a related technical field.

Candidates for this position must be a US citizen due to this position being funded by a US Department of Defense contract, and export control restrictions.

Decision Making:

The individual in this position will make decisions based upon their knowledge of object-oriented Python development techniques and software development best practices. They will work both independently and collaboratively with the CIRA GeoIPS lead and the multi-institutional GeoIPS team as needed and directed by the CIRA GeoIPS lead to meet the goals of the funded projects. Specific decision-making activities are as follows:

- Work with CIRA GeoIPS lead to prioritize tasks for GeoIPS development in support of funded project goals.
- Select tasks for self-completion independently or with project lead as appropriate.
- Develop, complete, and report on minor tasks in support of major project goals.
- Review, suggest changes to, and approve pull requests into the main open-source code branch.
- for RA-III: Work with CIRA project lead to select tasks and assign them to other employees.

Essential Job Duties:

Application Development, Documentation, and Maintenance – 60%

- Become fully acquainted with the architecture and inner workings of GeoIPS for geolocated data processing.
- In collaboration with the larger GeoIPS team:
 - Make improvements to the current GeoIPS infrastructure in support of funded project goals.

- Complete and maintain the GeoIPS user and developer documentation.
- Conceive and implement more comprehensive unit tests for GeoIPS and its associated plugin packages.
- Develop an updated Command Line Interface (CLI).
- Improve GeoIPS CI/CD pipelines including testing, packaging, and deployment.

Scientist Support – 20%

- Assist scientists with updating their algorithms to act as GeoIPS plugins.
- Make updates to GeoIPS as required to allow integration of scientific algorithms including fixing bugs, improving efficiency, improving existing features, and adding new features.
- Assist with development and presentation of GeoIPS training materials and workshops.

Leadership – 20%

- Using thorough knowledge of GeoIPS, review code updates from other GeoIPS contributors to assess their need, functionality, completeness, and conformance to standards. Approve these code updates when they are ready for release, suggesting any changes as necessary.
- In collaboration with the CIRA GeoIPS lead, prepare periodic reports discussing work completed by the CIRA GeoIPS team.
- for RA-III: Leverage development experience to provide guidance to other team members on task identification and completion.

Required Qualifications:

Note: Please detail each of these items in your cover letter.

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 - Bachelor's degree in computer science, software engineering, or a related technical field PLUS 3-4 years of professional software development experience. –OR–
 - Master's Degree in computer science, software engineering, or a related technical field.
- For position title Research Associate III:
 - Bachelor's degree in computer science, software engineering, or a related technical field PLUS 5 or more years of professional software development experience –OR–
 - Master's Degree in computer science, software engineering, or a related technical field PLUS 2 or more years of professional software development experience –OR–
 - Ph.D. in computer science, software engineering, or a related technical field.
- Must be a US citizen due to this position being funded by a US Department of Defense contract, and export control restrictions.
- 2+ years of experience developing Object-oriented Python applications.
- Experience using Git for version control.
- For RAIII:
 - Demonstrated experience working independently on production-ready code projects.
 - Experience acting in a supervisory or delegatory role (e.g., development lead, technical lead, project manager, principal investigator, etc.).

Preferred Qualifications:

In your cover letter, please specifically address the applicable preferred qualifications for this position. A cover letter that fails to address the preferred qualifications for this position may not be considered further after review by the search committee.

- 5+ years of experience developing Object-oriented Python applications.
- Experience manipulating large geolocated datasets (e.g. satellite imagery) and complex data formats (e.g. NetCDF, HDF).
- Experience writing comprehensive documentation for Python packages, preferably using RST and Sphinx.
- Experience writing comprehensive unit tests for Python packages, preferably using Pytest.

- Experience with packaging and distributing pure-Python applications and Python packages that include C/C++ or Fortran extensions.
- Experience developing in compiled language (e.g. C/C++, Fortran 95 or newer).
- Experience developing CI/CD, preferably via GitHub Actions or GitLab-CI.
- Experience manipulating and developing SQL databases.

Annual Salary Range:

Commensurate with experience and qualifications as follows:

- Research Associate II: \$70,000 - \$90,000
- Research Associate III: \$80,000 - \$100,000

Background Check:

Colorado State University 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 history, sex offender registry, motor vehicle history, financial history, and/or education verification. Background checks will also 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:

Applications will be accepted until the position is filled; however, to ensure full consideration applications should be submitted by 11:59 PM MT on Sunday, January 7, 2024. For full position announcement and to apply, please click “Apply to this Job” at the following website: <https://jobs.colostate.edu/postings/136806>. NOTE: In your cover letter, please specifically address the required and preferred qualifications of this position. A cover letter that fails to address the 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/expression, or pregnancy in its employment, programs, services and activities, and admissions, and, in certain circumstances, marriage to a co-worker. The University 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 and equal access institution and 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 Director of the Office of Title IX Programs and Gender Equity, 123 Student Services Building, Fort Collins, CO 80523-0160, (970) 491-1715, titleix@colostate.edu. The Section 504 and ADA Coordinator is the Director of the Office of Equal Opportunity, 101 Student Services Building, Fort Collins, CO 80523-0160, (970) 491-5836, oeo@colostate.edu. The Coordinator for any other forms of misconduct prohibited by the University's Policy on Discrimination and Harassment is the Vice President for Equity, Equal Opportunity and Title IX, 101 Student Services Building, Fort Collins, Co. 80523-0160, (970) 491-5836, oeo@colostate.edu. Any person may report sex discrimination under Title IX to the [Office of Civil Rights, Department of Education](#).