Software Modeling Engineer

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Type: Full-Time
Salary: $36.50 per hour
Posted: 34 days ago
Category: Mechanical Engineering;



Job Description
Position Summary

The Energy Institute is operated under the Office of the Vice President for Research (OVPR) at Colorado State University. The Institute builds on the long history of work in energy at CSU and is intended to foster greater collaboration among energy faculty across all eight colleges with broad access to facilities for faculty and industry partners. The Institute conducts research, education, commercialization and outreach activities for the entire CSU campus. Also, the Institute operates two facilities; the Powerhouse Energy Campus, and METEC both of and provides safe, secure, and sophisticated facilities for university investigators and industry partners to collaboratively develop clean energy solutions. This position resides at the METEC facility, which is an industrial working environment.

The CSU Energy Institute has a prominent group of researchers focused on emissions from oil and natural gas operations, from production through distribution and end use. The group operates the leading test site for assessing leak detection methods - the *Methane Emissions Technology Evaluation Center* (METEC). As needed, this position will lead field work to assess emissions at a variety of locations. The position will also contribute to software development efforts to process and analyze data from a variety of project sources, including advanced modeling efforts under development by the team. The position will interface with customers and other research groups using the METEC test facility or participating in field research. The full consideration date is 2/11/26

Essential Job Duties

Conduct Research

- Work closely with partner companies to facilitate field data collection.
- Lead quality control and assurance of collected data.

- Develop modeling methods to analyze data collected in the laboratory and field campaigns.
- Develop stochastic simulation software modules for ongoing work at METEC.
- Maintain a strong understanding of current literature and ongoing research efforts at other research institutions.
- Prepare manuscripts for journal and conference submissions.
- Present results of research at appropriate forums.
- Coordinate with project manager, other research scientists and the PI to assure smooth and effective operation of the research program.

Proposal Development

- Assist the PI, other research staff, and project manager to develop new proposals to extend funding for research work.
- As requested, review and write sections of proposals.
- Develop research concepts and related budgets for project proposals.
- Assist research group project manager in preparation of budgets and assembling documentation required for proposals.

Conditions of Employment

Pre-employment Criminal Background Check (required for new hires), Valid

Driver's License, Travel

Supervision

N/A

Minimum Qualifications

- PhD in Mechanical, Systems, Electrical Engineering or related physical sciences field.
- Demonstrated experience configuring practical laboratory equipment and using it in experimental methods.
- Experience with stochastic modeling methods, such as Monte Carlo simulation.
- Demonstrated experience performing experimental work in field and/or laboratory conditions.
- Experience acquiring, analyzing, and doing quality control on large data sets, including statistical analyses.
- Strong background in software for data acquisition and analysis.
- Demonstrated ability to manage multiple projects and priorities.
- Demonstrated experience working productively within a research group.
- Must have a valid driver's license or the ability to obtain a driver's license or access to a licensed driver by the employment start date.
- Department cannot sponsor a visa and requires U.S. work authorization

Preferred Qualifications

- Demonstrated experience interfacing with remote groups and successfully working with industry partners.
- High level of computer mastery in scientific programming using MatLab, Python and/or GIS.
- Experience with basic machine learning or related AI methods.
- Demonstrated experience with mechanical and electrical fabrication particularly related to laboratory equipment.
- Experience working in a multi-university collaborative environment.

Salary Range
$36.50 an hour
Required Application Documents

To apply, please upload the following applicant documents. Ensure your materials fully address the required and preferred job qualifications of the position. Please note, applicants may redact information from their application materials that identifies their age, date of birth, or dates of attendance at or graduation from an educational institution.
Cover Letter, Resume/CV
Employee Benefits

Colorado State University is not just a workplace; it's a thriving community that's transforming lives and improving the human condition through world-class teaching, research, and service. With a robust benefits package, collaborative atmosphere, and focus on work-life balance, CSU is where you can thrive, grow, and make a lasting impact.

- Review our detailed benefits information here.
- Explore the additional perks of working at CSU here.
- For the total value of CSU benefits in addition to wages, use our compensation calculator.
- Lastly, click here for more information about why Fort Collins is consistently ranked in the top cities to live in!

Background Check Policy Statement
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 for the finalist before a final offer. 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.

EEO

Colorado State University (CSU) provides equal employment opportunities to all applicants for employment and prohibits discrimination and harassment of any type without regard to race, color, religion, age, sex, national origin, disability status, genetics, protected veteran status, sexual

orientation, gender identity or expression, or any other characteristic protected by federal, state or local laws.