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Posted Feb. 14, 2025, set to expire Jun. 30, 2025

Job Title Data Scientist (6257U), Quantitative Biosciences -

76306

Department

Institution University of California, Berkeley

Berkeley, California

Date Posted Feb. 14, 2025

Application Deadline Open until filled

Position Start Date Available immediately

Job Categories Research Scientist/Associate

Professional Staff

Academic Field(s) Biology - General

Computer/Information Sciences

Biology - Computational

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Job Description

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Data Scientist (6257U), Quantitative Biosciences - 76306

About Berkeley

At the University of California, Berkeley, we are dedicated to fostering a community where everyone



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feels welcome and can thrive. Our culture of openness, freedom and belonging make it a special place for students, faculty and staff.

As a world-leading institution, Berkeley is known for its academic and research excellence, public mission, diverse student body, and commitment to equity and social justice. Since our founding in 1868, we have driven innovation, creating global intellectual, economic and social value.

We are looking for applicants who reflect California's diversity and want to be part of an inclusive, equity-focused community that views education as a matter of social justice. Please consider whether your values align with our <u>Guiding Values and Principles</u>, <u>Principles of Community</u>, and <u>Strategic Plan</u>.

At UC Berkeley, we believe that learning is a fundamental part of working, and provide space for supportive colleague communities via numerous employee resource groups (staff organizations). Our goal is for everyone on the Berkeley campus to feel supported and equipped to realize their full potential. We actively support this by providing all of our full-time staff employees with at least 80 hours (10 days) of paid time per year to engage in professional development activities. Find out more about how you can grow your career at UC Berkeley.

Departmental Overview

The Arkin laboratory for systems and synthetic biology seeks to uncover the evolutionary design principles of cellular networks and populations and to exploit them for applications. To do so they are developing a framework to effectively combine comparative functional genomics, quantitative measurement of cellular dynamics, biophysical modeling of cellular networks, and cellular circuit design to ultimately facilitate applications in health, the environment, and the circular bioeconomy on earth and in space. We lead three major projects: The Ecosystems and Networks Integrated with Genes and Molecular Assemblies (ENIGMA) program which seek to advance a predictive, mechanistic understanding of microbial biology and the impact of microbial communities on their ecosystems; The DOE Systems Biology Knowledgebase (KBase) is a software and data science platform designed to meet the grand challenge of transparent, reusable, reproducible systems biology: predicting and designing biological function; and the Center for Utilization of Biological Engineering in Space (CUBES) which aims to create a high efficiency sustainable and regenerable biomanufacturing platform for functional food, pharmaceuticals and materials for prolonged deep space missions. They also work on 'living' therapies such as phage to treat antimicrobial resistant microbes or creation of microbial probiotics that sense and protect against respiratory infection.

Position Summary



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This position is for an experienced data scientist/engineer to help build a data integration, analysis and management system for an exciting new multidisciplinary research program aimed at designing microbial communities ("pre- and probiotics") to protect human airways from infection. The project's approach integrates advanced microbiome engineering, multimodal functional metagenomics of human and mouse samples, high-throughput microbial isolation and characterization, model-driven synthetic community composition, and iterative design-build-test cycles to move formulations toward clinical translation. Data is coming from diverse locations and we are integrating to drive cycles of model-supported design, assemble, test and learn cycles for protective lung probiotics. We will leverage data infrastructure being developed by collaborative projects as a foundation but specialized approaches will be required here. The team is highly collaborative and working towards well defined goals and milestones.

Application Review Date

The First Review Date for this job is: 02/26/2025.

Responsibilities

- Set and maintain standards for data and metadata reporting, software documentation and version control, and protocol reproducibility across the project.
- Develop, implement, and maintain software pipelines and workflows for data integration, centralization, and harmonization, accommodating multiple data types (metagenomes, phenotypes, genomic annotations, etc.).
- Interact closely with collaborating teams to design and establish an integrated data framework that supports value-added analyses, visualization tools, and user-friendly data access for internal team members and the broader scientific community.
- Perform quality checks on datasets, troubleshoot issues, and implement best practices for data storage and version control and overall FAIR (Findable, Accessible, Interoperable, Reusable) data and software practice.
- Collaborate with modeling and machine learning experts to refine data processing methods and incorporate advanced analytics that enhance research outcomes and Support training of team members in data handling, informatics tools, and best practices in reproducible research.
- May attend program meetings as required usually once a year.

Required Qualifications

Intermediate knowledge of HPC/data science/CI.



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- Advanced skills, and demonstrated experience associated with one or more of the following: HPC
 hardware and software power and performance analysis and research, design, modification,
 Implementation and deployment of HPC or data science or CI applications and tools.
- Demonstrated ability to regularly interface with management.
- Demonstrated ability to contribute research and technical content to grant proposals.
- Demonstrated effective communication and interpersonal skills.
- Demonstrated ability to communicate technical information to technical and non-technical personnel at various levels in the organization and to external research and education audiences.
- Proven skills and experience in independently resolving broad computing/data/CI problems using introductory and/or intermediate principles.
- Self-motivated and works independently and as part of a team.
- Able to learn effectively and meet deadlines.
- Thorough experience working in a complex computing/data/CI environment encompassing all or some of the following: HPC, data science infrastructure and tools/software, and diverse domain science application base.
- Proven ability to successfully work on multiple concurrent projects.
- Proven ability to understand research computing/data/CI needs, mapping use cases to requirements and how systems/software/infrastructure can support those needs and meet the requirements. Demonstrated ability to develop and implement such solutions.
- Demonstrated broad experience in one or more of the following: optimizing, benchmarking, HPC performance and power modeling, analyzing hardware, software, and applications for HPC/data/CI.
- Demonstrated experience and ability to collaborate effectively with all levels of staff; technical, students, faculty and administrators
- Ability to work both independently and as part of a team, contributing to a supportive, inclusive, and productive research environment.
- Strong problem-solving skills and the ability to adapt to evolving research goals and project requirements.
- Excellent communication and interpersonal skills, with the ability to clearly convey technical details and scientific rationale to diverse audiences.
- Bachelor's degree in related area and/or equivalent experience/training.

Preferred Qualifications

- Proficiency in programming languages (e.g., Python, R, Julia) and version control systems.
- Experience designing and maintaining scalable data infrastructures and pipelines.
- Familiarity with standard bioinformatics tools, machine learning frameworks, and HPC/cloud



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computing environments.

- Knowledge of best practices for reproducible research, software testing, and continuous integration.
- Understanding of biological domain data (metagenomics, functional genomics) and metadata standards.

Salary & Benefits

This is approximately a 2-year and 7-month, full-time (40 hours/week), contract appointment, eligible for UC benefits with the possibility of extension. This is an exempt position, which is paid monthly at an annual rate.

For information on the comprehensive benefits package offered by the University, please visit the University of California's https://apptrkr.com/get_redirect.php?id=6005595&targetURL=

For information on the comprehensive benefits package offered by the University, please visit the University of California's Compensation & Benefitswebsite.

Under California law, the University of California, Berkeley is required to provide a reasonable estimate of the compensation range for this role and should not offer a salary outside of the range posted in this job announcement. This range takes into account the wide range of factors that are considered in making compensation decisions including but not limited to experience, skills, knowledge, abilities, education, licensure and certifications, analysis of internal equity, and other business and organizational needs. It is not typical for an individual to be offered a salary at or near the top of the range for a position. Salary offers are determined based on final candidate qualifications and experience.

The budgeted annual salary range that the University reasonably expects to pay for this position is \$88,900.00 - \$126,400.00.

How to Apply

• To apply, please submit your resume and cover letter.

Other Information



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- This is not a visa opportunity.
- This position is eligible for up to 50% remote work. Exact arrangements are determined in partnership with your supervisor to meet role responsibilities and department needs, and are subject to change.

Misconduct

SB 791 and AB 810 Misconduct Disclosure Requirement: As a condition of employment, the final candidate who accepts a conditional offer of employment will be required to disclose if they have been subject to any final administrative or judicial decisions within the last seven years determining that they committed any misconduct; received notice of any allegations or are currently the subject of any administrative or disciplinary proceedings involving misconduct; have left a position after receiving notice of allegations or while under investigation in an administrative or disciplinary proceeding involving misconduct; or have filed an appeal of a finding of misconduct with a previous employer.

"Misconduct" means any violation of the policies or laws governing conduct at the applicant's previous place of employment, including, but not limited to, violations of policies or laws prohibiting sexual harassment, sexual assault, or other forms of harassment, discrimination, dishonesty, or unethical conduct, as defined by the employer. For reference, below are UC's policies addressing some forms of misconduct:

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UC Sexual Violence and Sexual Harassment Policy

UC Anti-Discrimination Policy

Abusive Conduct in the Workplace

Equal Employment Opportunity

The University of California is an Equal Opportunity/Affirmative Action Employer. All qualified applicants will receive consideration for employment without regard to race, color, religion, sex, sexual orientation, gender identity, national origin, disability, or protected veteran status. For more information about your rights as an applicant, please see the https://apptrkr.com/get_redirect.php?id=6005595&targetURL=U.S. Equal Employment Opportunity_Commission poster.

The University of California's Affirmative action policy.

The University of California's Anti-Discrimination policy.

To apply, visit

https://careerspub.universityofcalifornia.edu/psc/ucb/EMPLOYEE/HRMS/c/HRS_HRAM_FL.HRS_CG_S

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Contact Information

Please reference Academickeys in your cover letter when applying for or inquiring about this job announcement.

Contact

N/A

University of California, Berkeley

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