



USC University of Southern California

Bioinformatician Job Description

JOB INFORMATION

Job Code:	185528
Job Title:	Bioinformatician
FLSA Status:	Exempt
Supervisory:	Supervises employees and/or student workers.; Trains employees on specific skills and tasks as required.
Job Family:	Business Data Analysis
Job Family Group:	Data Analysis
Management Level:	7 Individual Contributor

JOB SUMMARY

Responsible for creating and running analytical pipelines to answer research questions on funded projects. Serves as an integral part of the research team. Works closely with faculty and research leads to develop and implement coding approaches. Educates and cross-trains graduate students, staff, or post-docs in external collaborating groups. Makes independent decisions on analysis approaches, free from immediate direction, within scope of responsibilities.

JOB QUALIFICATIONS:

Education

Req	Pref	Degree	Field of Study
X		Master's degree	

Additional Education

Check here if experience may substitute for some of the above education.

<input type="checkbox"/>	Combined experience/education as substitute for minimum education
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Work Experience

Req	Pref	Work Experience	Experience Level
X		2 years	

Additional Work Experience

Check here if education may substitute for some of the above work experience.

<input type="checkbox"/>	Combined experience/education as substitute for minimum work experience
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Knowledge, Skills and Abilities

Req	Pref	Functional Skills
X		Experience analyzing large and complex biological/-omics datasets using reproducible analysis approaches (e.g., analysis pipelines).
X		Demonstrated knowledge of programming/scripting languages (e.g., R, SAS, python).
X		Programming experience in data management and statistical modeling (e.g., R or other -omic analysis software, using command line programming).

Knowledge, Skills and Abilities

Req	Pref	Functional Skills
X		Demonstrated skills in genomics data analysis (e.g., GWAS, EWAS, TWAS, etc.); experience using high performance computing clusters, managing large data files, documenting methods used for analytical procedures, and applying statistical methods for working with repeated measures data (e.g., from large-scale, population-based datasets).
X		Highly motivated to learn and implement novel quality control and analyses techniques.
X		Ability to multi-task. Experience with analysis pipeline record-keeping.
X		Strong organizational and communication skills.
X		High level of attention-to-detail.
X		Ability to work independently and as part of a research team.
X		Familiarity with statistical genetic and social science research methods.
	X	Experience with genomic analysis of large health or social science studies.
	X	Programming experience with R Markdown, Python, and R shiny apps.
	X	Experience with standard bioinformatics software tools and packages (e.g., Bioconductor).
	X	Experience analyzing large and complex biological/ -omics datasets using reproducible analysis approaches (e.g., analysis pipelines).

Other Job Factors

JOB ACCOUNTABILITIES

	% Time	Essential	Marginal	N/A
Evaluates and assesses epigenome- and genome-wide data in large population studies. Independently analyzes and interprets data analyses (e.g., quality control, regression models). Develops/implements quality control protocols. Generates epigenetic or genetic measures (e.g., epigenetic scores, polygenic scores, gene-regions). Conducts analyses (e.g., EWAS, GWAS, SKAT).				
Uses bioinformatics software/tools (e.g., IPA, KEGG, BaseSpace, ANNOVAR) and public databases to annotate and interpret findings.				
Prepares and implements research plans. Consults with collaborators. Assists in supervision of students/staff/postdocs. Participates in data acquisition and database management; interfaces with representatives from data repositories.				
Performs code review for other analysts (e.g., fixing errors, discussing differences). Performs regular maintenance of datasets (e.g., merging files, restructuring/recoding variables, checking for errors). Creates and maintains clear and organized workflow documentation. Chronicles data management and analysis steps; annotates program files.				
Conducts literature reviews on relevant topics (e.g., aging, genomics, bioinformatics). Writes data, analysis, and results sections for working papers. Collaborates in the development of data presentations.				
Promotes an environment that fosters inclusive relationships and creates unbiased opportunities for contributions through ideas, words, and actions that uphold principles of the USC Code of Ethics.				

Other Requirements

Essential:	Emergency Response/Recovery	Essential:	Mandated Reporter
Yes	In the event of an emergency, the employee holding this position is required to “report to duty” in accordance with the university’s Emergency Operations Plan and/or the employee’s department’s emergency response and/or recovery plans. Familiarity with those plans and regular training to implement those plans is required. During or immediately following an emergency, the employee will be notified to assist in the emergency response efforts, and mobilize other staff members if needed.		A mandated reporter who in his or her professional capacity has knowledge of, or reasonably suspects a person who is under the age of 18 years, elderly, or a dependent adult has been the victim of abuse or neglect must report the suspected incident. The reporter must contact a designated agency immediately or as soon as practically possible by telephone or in writing within 36 hours. By virtue of the associated job duties, this position qualifies as a mandated reporter as required by state law and USC’s policy at: https://policy.usc.edu/mandated-reporters/

<i>Campus Security Authority (CSA)</i>	<i>Essential:</i>
By virtue of the associated job duties, this position qualifies as a Campus Security Authority as required by law and USC's policy at: https://dps.usc.edu/alerts/clery/	No

ACKNOWLEDGMENTS

The above statements reflect the essential and non-essential functions as necessary to describe the principle contents of the job. They are not intended to be a complete statement of all work requirements or duties that may be required of the position. I understand that I may be asked to perform other duties as assigned. USC reserves the right to add or change duties at any time.

The University of Southern California is an Equal Opportunity Employer. USC prohibits discrimination on any basis protected under federal, state, or local law, regulation, or ordinance or university policies. All employment decisions are based on individual qualifications and business need.

I acknowledge receipt of this job description and its associated physical requirements. I have read and understand the job description and job requirements and agree to abide by their contents. I realize that duties may be requested of me that are not specifically stated herein. I understand that I will be expected to adjust to potential fluctuations in work volume. I understand that, if I have any questions about the essential functions or expectations of my position, my supervisor and/or HR partner are available to discuss them with me.

Print Employee Name

Signature

Date

Print Manager Name

Signature

Date

This job description describes the general nature and level of work required by the position. It is not intended to be an all-inclusive list of qualifications, skills, duties, responsibilities or working conditions of the job. The job description is subject to change with or without notice, and Management reserves the right to add, modify or remove any qualification or duty. Nothing in this job description changes the existing at-will employment relationship between the university and the employee occupying the position.