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Bioinformatician - Human Nutrition Research Center on Aging
Tufts University

Direct Link: https://www.AcademicKeys.com/r?job=243537
Downloaded On: Aug. 31, 2024 10:16pm
Posted Aug. 22, 2024, set to expire Jan. 4, 2025

Job Title	Bioinformatician - Human Nutrition Research Center on Aging
Department	USDA Human Nutrition Research Center on Aging
Institution	Tufts University Medford, Massachusetts
Date Posted	Aug. 22, 2024
Application Deadline	Open until filled
Position Start Date	Available immediately
Job Categories	Professional Staff Research Professor
Academic Field(s)	Public Health/Biostatistics/Epidemiology Nutrition and Dietetics Informatics - All Categories
Job Website	https://jobs.tufts.edu/jobs/20864?lang=en-us&iis=Job+Board&iisn=AcademicKeys
Apply By Email	
Job Description	

Overview

The mission of the USDA Human Nutrition Research Center on Aging at Tufts University (HNRCA) is to promote healthy aging through nutrition science to empower people seeking to enjoy long, active, and independent lives. HNRCA investigators examine how nutrition and physical activity play a role in the prevention of the major chronic degenerative conditions and diseases associated with aging.

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The HNRCA’s Biostatistics and Data Management core (BDM) consults with HNRCA principal investigators and assists in study design, implementation, data management, and analysis. It also develops statistical techniques and software to support HNRCA research activities. Scientists confer with the unit in the early stages of a study to discuss project goals, available resources, accepted statistical, bioinformatics, and data management practices. The core also works closely with other scientific cores to ensure the generation and release of high-quality scientific data.

What You'll Do

This is a grant funded position and is not eligible for severance pay.

The primary responsibility of this Bioinformatician role will be to support HNRCA investigators in developing and executing analysis plans involving high-dimensional data, such as metabolomics, lipidomics, metagenomics, or other types of ‘-omics’ data. The successful candidate will be adept at performing multi-omics integration, as well as integration of -omics data with multimodal clinical data. The candidate should be very proficient in constructing and assessing machine learning models using Python, R, or other relevant tools. The candidate should also be familiar with multivariate statistical methods, big data workflows using computing clusters, able to construct ETL pipelines with data from a variety of sources, and be well versed in model diagnostics and techniques to guard against overfitting.

Essential Functions:

- Perform data preprocessing, including data harmonization and aggregation, quality control checks, transformations, and imputations to prepare data for modeling.
- Build efficient, reproducible, well-annotated pre-processing and analysis pipelines using plain-code and notebook files.
- Create insightful and high-quality visualizations for notebooks and publications.
- Communicate findings to investigators and other project members. Assist in writing publications
- Prepare study summary reports for investigators and funding agencies
- Consult with investigators regarding potential analysis techniques and strategies.
- Estimate sample size requirements for research proposals.

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- Support grant submissions by assisting with formulating and writing analysis plans.
- Research new analytical methods to determine utility. Maintain knowledge of current trends in multi-omics analysis methods.
- Occasionally present on new techniques to scientists and coworkers.

What We're Looking For

Basic Requirements:

- Master’s degree in Bioinformatics, Computational Biology, Biostatistics, Data Science, or related field with 3-5 years’ experience working directly with metabolomics and other -omics data.
- Experience in study design involving -omics data, such as metabolomics, lipidomics, and metagenomics. Ability to identify appropriate analytical methods and create analytical plans based on research questions.
- Experience building relevant machine learning models such as decision trees, penalized regressions, and support vector machines. Strong skills in multivariate statistical methods, such as PLS, PCA, CCA, and clustering techniques. Ability to identify and check model assumptions, fit quality, and performance.
- Strong programming skills in languages such as R and Python and relevant machine learning, multivariate, andvisualization packages.
- Ability to write clean, organized, well-commented, reproducible code. Familiarity with using git for version tracking.
- Strong time management skills and ability to handle multiple projects, organize work, and set priorities to meet deadlines while working within prescribed time constraints.
- Familiarity with data privacy regulations and good data hygiene.
- Proficient in Microsoft Office, including Excel, Word, and PowerPoint.
- Strong verbal, written, interpersonal, and team skills.
- Demonstrated proficiency in English language skills (reading, writing, and speaking).
- Confidentiality and discretion are essential

Preferred Qualifications:

- PhD in Bioinformatics, Computational Biology, Biostatistics, Data Science, or related field.
- Experience with multi-omics analysis and integration with other multi-modal data. Willingness to keep abreast of latest trends in omics and multi-omics analyses.
- Extensive experience in exploratory data analysis. Ability to quickly identify latent trends and patterns in large scale data sets. Adept at visualizing complex data.

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- Extensive experience in writing scalable, robust, and reusable code. Ability to quickly read and understand other people's code.
- Comfortable with bash scripting and SLURM for executing jobs on computing clusters. Experience working with large data sets and ingesting data from different sources.
- Experience writing SQL select statements for fetching data.
- Ability to behave professionally and ethically at all times

Special Work Schedule Requirements:

- This position may occasionally require to work on nights and/or weekends as determined by need.

Pay Range

Minimum $94,600.00, Midpoint $118,250.00, Maximum $141,900.00

Salary is based on related experience, expertise, and internal equity; generally, new hires can expect pay between the minimum and midpoint of the range.

Contact Information

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

Contact

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