

Opportunity Title: FDA Bioinformatics Data Science Fellowship

Opportunity Reference Code: FDA-CBER-2022-07

Organization U.S. Food and Drug Administration (FDA)

Reference Code FDA-CBER-2022-07

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A complete application consists of:

- An application
- Transcripts – [Click here for detailed information about acceptable transcripts](#)
- A current resume/CV, including academic history, employment history, relevant experiences, and publication list
- One educational or professional recommendation

All documents must be in English or include an official English translation.

If you have questions, send an email to ORISE.FDA.CBER@oraui.org. Please include the reference code for this opportunity in your email.

Description ***Applications will be reviewed on a rolling-basis, and this posting will remain open until filled.**

A research opportunity is currently available in the Office of Biostatistics and Epidemiology (OBE) at the Center for Biologics Evaluation and Research (CBER), Food and Drug Administration (FDA) in Silver Spring, Maryland.

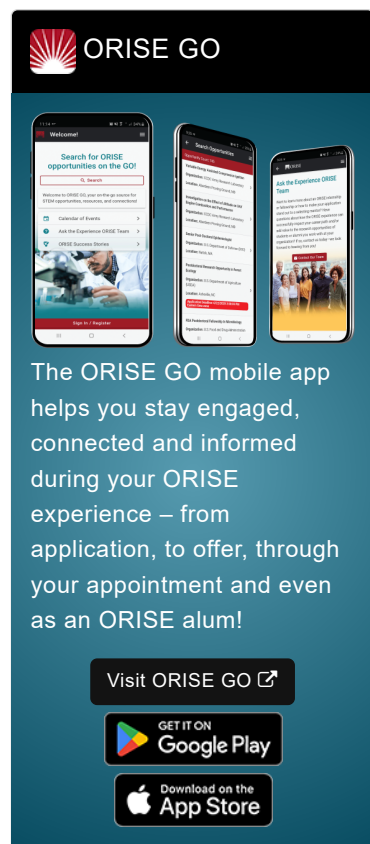
The participant will be working on the development of an analytical framework for the development of machine learning (ML) models to predict phenotypes based on genomic variation data. Our team is working on multiple bioinformatics project that range from viral mutational scans, where ML models can be applied to predict epitopes, to human cancer data where ML models can be applied to predict treatment outcomes. All ML models are based on genomic variation data. The candidate will be working on a framework we built that solves common challenges across these cases. The selected participant will use tools developed internally, as well as open source and third-party genomics software, to create ML models to analyze genomic and immunological data.

Under the guidance of a mentor, the participant will be involved in the following activities:

- Identify, import and quality check high throughput sequencing (HTS) datasets
- Design, develop and maintain bioinformatics protocols and pipelines
- Develop machine learning models and algorithms on genomics and immunological data
- Analyze scientific data to validate ML models
- Communicate scientific results and interpretation to a diverse audience, including senior FDA scientists, collaborators, and internal stakeholders


Anticipated Appointment Start Date: February 2022; start date is flexible

This program, administered by ORAU through its contract with the U.S. Department of Energy to manage the Oak Ridge Institute for Science and Education, was established through an interagency agreement between DOE and FDA. The initial appointment is for three months, but may be renewed upon recommendation of FDA contingent on the availability of funds. The participant will receive a monthly stipend commensurate with educational level and experience. Proof of health insurance is required for participation in this program. The appointment is full-time



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at FDA in the Silver Spring, Maryland, area. Participants do not become employees of FDA, DOE or the program administrator, and there are no employment-related benefits.

Completion of a successful background investigation by the Office of Personnel Management is required for an applicant to be on-boarded at FDA. OPM can complete a background investigation only for individuals, including non-US Citizens, who have resided in the US for a total of three of the past five years.

FDA requires ORISE participants to read and sign their FDA Education and Training Agreement within 30 days of his/her start date, setting forth the conditions and expectations for his/her educational appointment at the agency. This agreement covers such topics as the following:

- Non-employee nature of the ORISE appointment;
- Prohibition on ORISE Fellows performing inherently governmental functions;
- Obligation of ORISE Fellows to convey all necessary rights to the FDA regarding intellectual property conceived or first reduced to practice during their fellowship;
- The fact that research materials and laboratory notebooks are the property of the FDA;
- ORISE fellow's obligation to protect and not to further disclose or use non-public information.

Qualifications The qualified candidate should be currently pursuing or have received a master's or doctoral degree in one of the relevant fields. Degree must have been received within the past five years.

Preferred skills:

- Experience analyzing bioinformatics datasets
- Excellent verbal and written communication
- Experience programming in shell, R, Python or other data science language

Eligibility Requirements

- **Degree:** Master's Degree or Doctoral Degree received within the last 60 months or currently pursuing.
- **Discipline(s):**
 - **Computer, Information, and Data Sciences** ([17](#)👁)
 - **Life Health and Medical Sciences** ([46](#)👁)

Affirmation Have you lived in the United States for at least 36 out of the past 60 months? (36 months do not have to be consecutive.)