**Opportunity Title:** FDA Fellowship in Novel Computer Vision Systems for Behavior & Health Detection in Animal Studies
**Opportunity Reference Code:** FDA-CBER-2024-0018

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| **Organization** | U.S. Food and Drug Administration (FDA) |
| **Reference Code** | FDA-CBER-2024-0018 |
| **How to Apply** | *Connect with ORISE...on the GO!* Download the new ORISE GO mobile app in the Apple App Store or Google Play Store to help you stay engaged, connected, and informed during your ORISE experience and beyond! |

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@orau.org. Please include the reference code for this opportunity in your email.

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| **Application Deadline** | 8/31/2024 3:00:00 PM Eastern Time Zone |
| **Description** | ***Applications will be reviewed on a rolling-basis.*** |

**FDA Office and Location:** A research opportunity is currently available at the Center for Biologics Evaluation and Research (CBER), in the Office of Management(OM) Division of Veterinary Services (DVS), at the Food and Drug Administration (FDA) in Silver Spring, Maryland.

**Research Project:** An ORISE fellow will be instrumental to advancing the progress on our collaborative project for automated tracking and behavior detection and analysis of research animals (rodents). The fellowship will offer an exciting opportunity for the fellow to gain in-depth knowledge in computer vision, deep learning, and embedded systems.
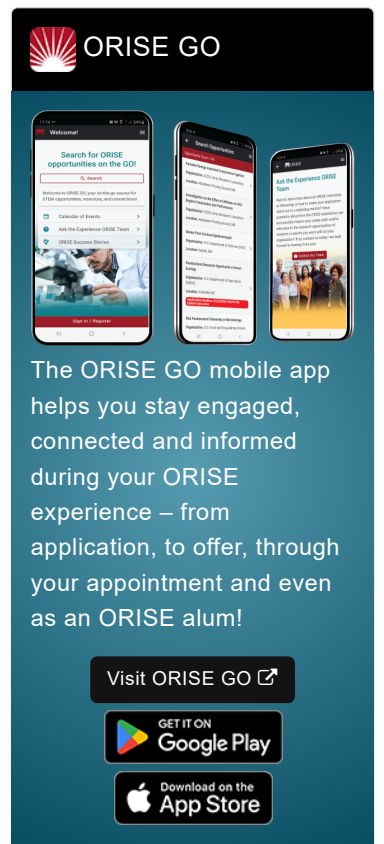
The research involves tailoring the latest algorithms developed by leaders in the field for object detection and pose estimation to track and potentially uniquely identify (in case of multi-animal setups) multiple animals. The research also involves adapting behavior detection methods to profile general behaviors (e.g., walking, running, etc.) of the animals as well as behaviors of special interest to different investigators. One critical requirement of these systems is real-time processing. Achieving real-time processing will be sought by optimizing algorithms as well as implementing the algorithms on edge devices (e.g., Nvidia Jetson devices).

**Learning Objectives:** The research will allow the fellow to gain and solidify skills in in computer vision, deep learning packages such as PyTorch, and embedded systems programming. This is a collaborative project with the NIH Institute of Biomedical Imaging and Bioengineering. The research effort will be summarized in conference and journal publications for which the ORISE fellow will get authorship recognition.

**Anticipated Appointment Start Date: May 15, 2024.** Start date is flexible and will depend on a variety of factors.

**Appointment Length:** The appointment will initially be for one year, but may be renewed upon recommendation of FDA and is contingent on the availability of funds.

**Level of Participation:** The appointment is full time.

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**Citizenship Requirements:** This opportunity is available to U.S. citizens, Lawful Permanent Residents (LPR), and foreign nationals. Non-U.S. citizen applicants should refer to the Guidelines for Non-U.S. Citizens Details page of the program website for information about the valid immigration statuses that are acceptable for program participation.

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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 participant will receive a monthly stipend commensurate with educational level and experience. Proof of health insurance is required for participation in this program. 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 Ethics Requirements**

If an ORISE Fellow, to include their spouse and minor children, reports what is identified as a Significantly Regulated Organization (SRO) or prohibited investment fund financial interest in any amount, or a relationship with an SRO, except for spousal employment with an SRO, and the individual will not voluntarily divest the financial interest or terminate the relationship, then the individual is not placed at FDA. For additional requirements, see FDA Ethics for Nonemployee Scientists.

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 have received a bachelor's, master's, or doctoral degree in one of the relevant fields or currently pursuing with an expected graduation date before May 31, 2024. Degree must have been received within the past five years.

**Eligibility Requirements**

- **Degree:** Bachelor's Degree, Master's Degree, or Doctoral Degree received within the last 60 months or anticipated to be received by 5/31/2024 11:59:00 PM.
- **Discipline(s):**
  - **Computer, Information, and Data Sciences** (2 👁)
  - **Engineering** (27 👁)

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

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I have read the FDA Ethics Requirements.