

Opportunity Title: USDA-ARS Fellowship in Modeling Cervid Behaviors

Opportunity Reference Code: USDA-ARS-PW-2024-0217

Organization U.S. Department of Agriculture (USDA)

Reference Code USDA-ARS-PW-2024-0217

How to Apply *To submit your application, scroll to the bottom of this opportunity and click **APPLY**.*

A complete application consists of:

- An application
- Transcript(s) – For this opportunity, an unofficial transcript or copy of the student academic records printed by the applicant or by academic advisors from internal institution systems may be submitted. Click [here](#) for detailed information about acceptable transcripts.
- A current resume/CV, including academic history, employment history, relevant experiences, and publication list
- Two educational or professional recommendations

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

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Application Deadline 7/5/2024 3:00:00 PM Eastern Time Zone

Description *Applications are reviewed on a rolling-basis.

ARS Office/Lab and Location: A research opportunity is currently available with the U.S. Department of Agriculture (USDA), Agricultural Research Service (ARS). **The opportunity will be remote.**

The Agricultural Research Service (ARS) is the U.S. Department of Agriculture's chief scientific in-house research agency with a mission to find solutions to agricultural problems that affect Americans every day from field to table. ARS will deliver cutting-edge, scientific tools and innovative solutions for American farmers, producers, industry, and communities to support the nourishment and well-being of all people; sustain our nation's agroecosystems and natural resources; and ensure the economic competitiveness and excellence of our agriculture. The vision of the agency is to provide global leadership in agricultural discoveries through scientific excellence.

Research Project: The selected participant will help conduct research to identify cervids in aerial surveillance images using artificial intelligence (AI) and machine learning (ML) techniques including, but not limited to, the use of refined YOLOv5 models and custom autoencoders. In addition, the participant will apply AI and ML to study the movements of wild cervids.

Learning Objectives: The selected participant will be afforded the opportunity to expand their computer and data science skills. Through collaboration, the participant will be afforded the opportunity to understand cervid behavior and animal movement modelling techniques. The research

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environment of the WRRC in Albany, California, will provide the participant with opportunities to learn theoretical aspects of chemistry, biochemistry, and mass spectrometry.

Mentor(s): The mentor for this opportunity is Christopher Silva (christopher.silva@usda.gov). If you have questions about the nature of the research, please contact the mentor(s).

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

Appointment Length: The appointment will initially be for 4 months, but may be renewed upon recommendation of ARS and is contingent on the availability of funds.

Level of Participation: The appointment is full time.

Participant Stipend: The participant will receive a monthly stipend commensurate with educational level and experience.

Citizenship Requirements: This opportunity is available to U.S. citizens only.

ORISE Information: This program, administered by ORAU through its contract with the U.S. Department of Energy (DOE) to manage the Oak Ridge Institute for Science and Education (ORISE), was established through an interagency agreement between DOE and ARS. Participants do not become employees of USDA, ARS, DOE or the program administrator, and there are no employment-related benefits. Proof of health insurance is required for participation in this program. Health insurance can be obtained through ORISE.

Questions: Please visit our [Program Website](#). After reading, if you have additional questions about the application process, please email ORISE.ARS.PacificWest@orau.org and include the reference code for this opportunity.

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

Preferred skills:

- Experience developing artificial intelligence models.
- Knowledge of libraries like Tensorflow, PyTorch, Pandas, and NumPy.
- Experience with machine learning models.
- Experience with Python and RStudio programming.
- Strong oral and written communication skills.
- Ability to handle and analyze large datasets, with experience in data processing and enhancement for robust model training and validation.
- Ability to effectively collaborate with others from the same and from different scientific disciplines.

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- Eligibility**
- **Citizenship:** U.S. Citizen Only
- Requirements**
- **Degree:** Master's Degree received within the last 60 month(s).
 - **Discipline(s):**
 - **Chemistry and Materials Sciences** ([12](#))
 - **Communications and Graphics Design** ([2](#))
 - **Computer, Information, and Data Sciences** ([17](#))
 - **Earth and Geosciences** ([21](#))
 - **Engineering** ([27](#))
 - **Environmental and Marine Sciences** ([14](#))
 - **Life Health and Medical Sciences** ([51](#))
 - **Mathematics and Statistics** ([11](#))
 - **Physics** ([16](#))
 - **Science & Engineering-related** ([2](#))
 - **Social and Behavioral Sciences** ([29](#))