

Opportunity Title: Doctoral Research Fellowship: Tensor Completion and Decomposition for Power Systems

Opportunity Reference Code: AFIT-2025-0004

Organization U.S. Department of Defense (DOD)

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How to Apply Click on *Apply* at the bottom of the opportunity to start your application.

Application Deadline 5/2/2025 3:00:00 PM Eastern Time Zone

Description The Air Force Institute of Technology is offering a doctoral research fellowship at Wright Patterson Air Force Base, Ohio.

What will I be doing?

As an Oak Ridge Institute for Science and Education (ORISE) participant, you will join a community of scientists and researchers in an effort to explore and refine tensor completion techniques to enhance missing data recovery in power grids.

Why should I apply?

Under the guidance of a mentor, you will gain hands-on experience to complement your education and support your academic and professional goals. Along the way, you will engage in activities and research in several areas. These include, but are not limited to:

- Leveraging prior research and Phasor Measurement Unit (PMU) datasets.
- Investigating the integration of tensor decomposition for multi-domain data fusion and anomaly detection in smart grid systems.
- Developing and testing data-efficient machine learning algorithms tailored for real-world power system challenges.
- Optionally, work on hardware acceleration strategies or algorithmic enhancements to handle larger datasets or improve computational efficiency.

The research will build on established frameworks and software to ensure measurable deliverables. Participants will have access to cutting-edge resources and mentorship to foster their academic and professional growth.

Where will I be located? Dayton, Ohio

What is the anticipated start date?

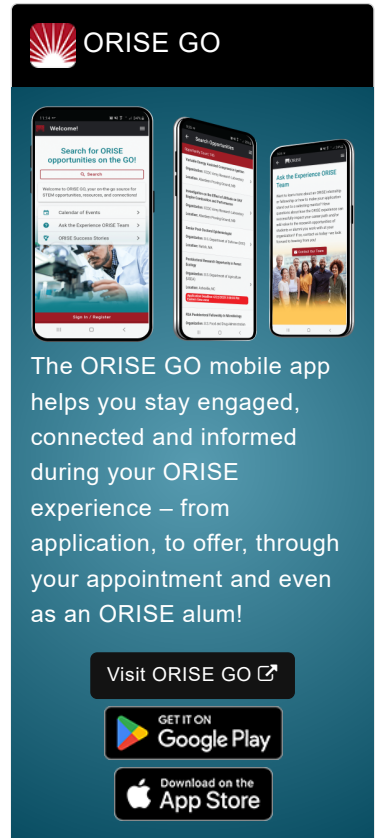
Exact start dates will be determined at the time of selection and in coordination with the selected candidate. Applications are reviewed on an ongoing basis and fellowships will be filled as qualified candidates are identified.

What is the appointment length?

This appointment is a fifteen-week research appointment, with the possibility to be renewed for additional research periods. Appointments may be extended depending on funding availability, project assignment, program rules, and availability of the participant.


What are the appointment provisions?


You will receive a stipend to be determined by AFIT. Stipends are typically based on a participant's academic standing, discipline, experience, and research facility location. Other benefits may include the following:




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- Health Insurance Supplement (*Participants are eligible to purchase health insurance through ORISE*)
- Relocation Allowance
- Training and Travel Allowance

About AFIT

The Air Force Institute of Technology, or AFIT, located at Wright-Patterson Air Force Base, Ohio, is the Air Force's graduate school of engineering and management as well as its institution for technical professional continuing education. A component of Air University and Air Education and Training Command, AFIT is committed to providing defense-focused graduate and professional continuing education and research to sustain the technological supremacy of America's air, space and cyber forces.

About ORISE

This program, administered by Oak Ridge Associated Universities (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 DoD. Participants do not enter into an employee/employer relationship with ORISE, ORAU, DoD or any other office or agency. Instead, you will be affiliated with ORISE for the administration of the appointment through the ORISE appointment letter and Terms of Appointment. Proof of health insurance is required for participation in this program. Health insurance can be obtained through ORISE. For more information, visit the [ORISE Research Participation Program at the U.S. Department of Defense](#).

Qualifications The qualified candidate will hold or be currently pursuing a doctoral degree with a focus on machine learning, power systems, or related fields. For postgraduates, the degree must have been received within twelve months of the appointment start date.

Highly competitive applicants will have education and/or experience in one or more of the following:

- Basic knowledge of tensor mathematics, data analysis, and programming (e.g., Python, MATLAB).
- Strong interest in applying theoretical knowledge to practical challenges.

Application Requirements

A complete application consists of:

- Zintellect Profile
- Educational and Employment History
- Essay Questions (goals, experiences, and skills relevant to the opportunity)
- Resume (PDF)
- Transcripts/Academic Records - Please upload a copy of a transcript for your current or most recent degree program that meets the disciplinary qualifications of the opportunity. [Click here for detailed information about acceptable transcripts](#).
- One Recommendation. We encourage you to contact your recommender(s) as soon as you start your application to ensure they are able to complete the recommendation form and to let

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them know to expect a message from Zintellect. Recommenders will be asked to rate your scientific capabilities, personal characteristics, and describe how they know you. You can always log back in to your Zintellect account and check the status of your application.

If you have questions, send an email to AIRFORCE@orise.orau.gov. Please list the reference code of this opportunity [AFIT-2025-0004] in the subject line of the email. Please understand that ORISE does not review applications or select applicants; selections are made by the sponsoring agency identified on this opportunity. All application materials should be submitted via the "Apply" button at the bottom of this opportunity listing. Please do not send application materials to the email address above.

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!

Point of Contact [Leslie](#)

- Eligibility**
- **Citizenship:** U.S. Citizen Only
- Requirements**
- **Degree:** Doctoral Degree received within the last 12 months or anticipated to be received by 5/31/2026 12:00:00 AM.
 - **Discipline(s):**
 - **Computer, Information, and Data Sciences** ([6](#) 👁)
 - **Engineering** ([2](#) 👁)
 - **Mathematics and Statistics** ([1](#) 👁)
 - **Physics** ([2](#) 👁)