

Opportunity Title: Data Science and Analytics Researcher at the Air Force Research Laboratory (AFRL)
Opportunity Reference Code: AFRL-711HPW-2022-0008

Organization	U.S. Department of Defense (DOD)
Reference Code	AFRL-711HPW-2022-0008
How to Apply	Click on <i>Apply</i> at the bottom of the opportunity to start your application.
Description	<p>Military and civilian aviation require the use of head-mounted devices for communication with internal and external sources of information. In these situations, there is an inherent noise that exists due to the aircraft, which influences the method, manner, and quality of the communication signals sent and received. The 711 Human Performance Wing (711 HPW) of the U.S. Air Force Research Laboratory (AFRL) possesses more than two decades of data from two ANSI Standard compliant facilities that define a variety of hearing protection device transfer functions, but through the years, the facilities have been upgraded, which has altered the format of the data. To explore the relationships between speech and the noise that is experienced, this data must be reformatted and combined together. The AFRL is offering a data science and analytics research opportunity to contribute to this project.</p>

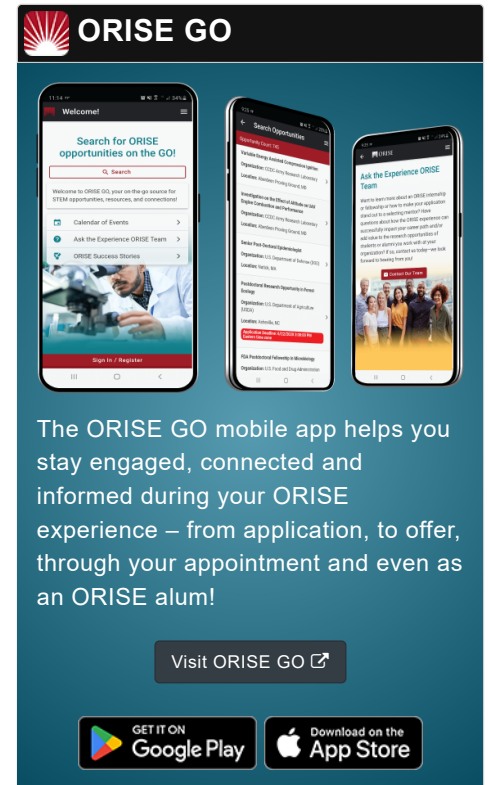
What will I be doing?

As an ORISE participant, you will join a community of scientists and researchers in an effort to understand the relationship between hearing protection transfer functions and the variety of meta-data to determine what is the most important element of the device's manufacturing. Additional analyses will explore a variety of questions that can only be answered after the data has been cleaned and organized into a single common format.

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:

- Learning how to organize and database existing data for data mining and analytics research.
- Making inferences from available data that will assist in development of machine learning models that will be validated with additional behavioral studies.
- Exploring a variety of research questions that will culminate in research papers and presentations that define new ways to understand and explore acoustic attenuation through human mounted devices.
- Reporting research updates in weekly group meetings, participating in team-based research efforts, and sharing research findings through publications



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and presentations.

- Taking an active role in designing and conducting experiments, performing data analysis, and adhering to ethical and health safety protocols in the laboratory.

Where will I be located?

Wright-Patterson AFB in Dayton, Ohio

What is the anticipated start date?

AFRL is ready to make appointments immediately. 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 internships or fellowships will be filled as qualified candidates are identified.

What is the appointment length?

This appointment is a twelve month 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 benefits?

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

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

About AFRL 711 HPW

The 711 HPW, headquartered at Wright-Patterson Air Force Base in Ohio, is the first human-centric warfare wing to consolidate human performance research, education, and consultation under a single organization. Established under the Air Force Research Laboratory (AFRL), the 711 HPW is comprised of the Airman Systems Directorate (RH) and the United States Air Force School of Aerospace Medicine (USAFSAM). For more information about the Air Force Research Laboratory, 711 Human Performance Wing, Airman Systems Directorate, Warfighter Interactions & Readiness Division, please visit <https://afresearchlab.com/>.

About ORISE

This program, administered by Oak Ridge Associated Universities (ORAU) through its contract with the U.S.

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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 have a Bachelors, Masters, or Doctoral degree in Computer Science, Data Science, or a related discipline, or will have completed their degree by May 31, 2023. Degree must have been received within three years of the appointment start date.

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

- A minimum of 3 years toward a Bachelor's degree in Computer Science or Data Science.
- Experience with machine learning, data analytics, databasing, and high level programming (Python, R).
- Experience in data processing, organization and transformation.
- Strong written and verbal communication of technical ideas.

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 - 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](#).
- One Recommendation

Your application will be considered incomplete and will not be reviewed until one recommendation is submitted. We encourage you to contact your recommender as soon as you start your application to ensure they are able to complete the recommendation form and to let 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.

If you have questions, send an email to AIRFORCE@orise.orau.gov. Please list the reference code of this opportunity [AFRL-711HPW-2022-0008] 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

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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!

Eligibility Requirements

- **Citizenship:** U.S. Citizen Only
- **Degree:** Bachelor's Degree, Master's Degree, or Doctoral Degree received within the last 36 months or anticipated to be received by 5/31/2023 12:00:00 AM.
- **Discipline(s):**
 - **Computer, Information, and Data Sciences** (17 👁)