Opportunity Title: Simulated Patient Physiologic Parameter Analysis Internship
Opportunity Reference Code: USAFSAM-2024-0004R

Organization U.S. Department of Defense (DOD)

Reference Code USAFSAM-2024-0004R

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

Description The US Air Force School of Aerospace Medicine (USAFSAM) is offering a data analytics and clinical research assistant internship.

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 develop programmatic algorithms to analyze Zoll monitor data over time, frequency of out-of-range, and trends of these compliance deficiencies that could be provided in real-time during Critical Care Air Transport (CCAT) Advanced validation simulations and systematically to inform the training curriculum and clinical practice guidelines. Current CCAT Advanced validation simulations do not have the means to assess team compliance with Clinical Practice Guidelines in real-time to provide more effective performance feedback, identify trends that can influence the training curriculum, and inform the Joint Trauma System (JTS) for consideration for updates, edits, or changes to relevant CPGs.

While continuous vital sign monitoring is usual practice, hemodynamic data from patient monitors are only sometimes captured in current training, clinical, or quality improvement en route critical care (ERCC) practices. We hypothesize that providing near real-time physiologic data of simulated patients during training will provide valuable training feedback for teams.

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:

- Assist in developing an automated patient summary report that illustrates the frequency and duration of vital sign values during simulated patient care episodes.
- Support the identification of vital sign thresholds for CPG compliance for each CCAT validation simulation
- Assist in writing a program to analyze, trend, and summarize the raw data from the Zoll monitor for each simulation.
- Help conduct a feasibility and end-user assessment of utilizing the data summary in CCAT Advanced courses. (CSTARS CCAT Advanced)
- Survey CCAT Advanced Cadre regarding the feasibility of using this report in formal feedback with students
- Support analyses of trends in vital sign threshold compliance across simulations during CCAT Advanced to find opportunities for training strategies to mitigate non-compliance
- Research trends by scenario and CPG for non-compliance and target for training and JTS CPG review.

Where will I be located?

Cincinnati, Ohio

What is the anticipated start date?

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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 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 USAFSAM. 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 USAFSAM

The 711th Human Performance Wing (711 HPW) is a unique combination of three units: the Airman Systems Directorate (RH), the US Air Force School of Aerospace Medicine (USAFSAM) and the Human Systems Integration Directorate (HP). USAFSAM is the premier institute for research, education, and worldwide operational consultation in Aerospace Medicine. USAFSAM has guided the advancement of aerospace medicine and human performance from the beginnings of aviation through the onset of the space age and into the present and is the oldest continually operating institution of its kind. It is also host to the largest aeromedical library in the world.

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 be currently pursuing or have obtained an undergraduate degree in Computer Science, Software Engineering or similar field.

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

- Experience with I/O operations (e.g., reading from input streams, outputting to files)
- Experience with developing Graphic User Interfaces

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- Experience with coding on cross-platform development environments (Android & iOS)
- Experience in graphical representing of data (e.g., charts and graphs)
- Experience in Medical/Healthcare Simulation training
- Experience in Training and Education
- Experience with Data/Informatics or code writing

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 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 USAFSAM-2024-0004 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 Alecia Booth

Eligibility Requirements

- **Citizenship:** U.S. Citizen Only
- **Degree:** Associate's Degree or Bachelor's Degree received within the last 60 months or currently pursuing.
- **Discipline(s):**
  - **Computer, Information, and Data Sciences** (5 👁)
  - **Engineering** (2 👁)
  - **Life Health and Medical Sciences** (3 👁)
  - **Mathematics and Statistics** (5 👁)
- **Veteran Status:** Veterans Preference, degree received within the last 120 month(s).