

Opportunity Title: Algorithm Development and Translation - Undergraduate Summer Internship at USARIEM

Opportunity Reference Code: USAMRDC-RIEM-2023-0007

Organization U.S. Department of Defense (DOD)

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

Description The US Army Research Institute of Environmental Medicine (USARIEM), Health Readiness and Performance System (HRAPS) is offering a Bachelor's level summer learning opportunity at the Natick, Massachusetts, facility.

What will I be doing?

You will join a community of scientists and researchers in an effort to develop sensors, algorithms, and tools that can prevent Soldier illness/injury and also use those sensors to optimize Soldier performance. As part of the HRAPS program, we are developing a heat injury illness algorithms and models and algorithms to pace Soldiers as they complete a known training exercise, such as a 12-mile ruck march. To improve and validate the heat injury prevention algorithm, we are automating our data analysis pipeline. For the validation of the pacing algorithm, we are developing a real-time feedback smartphone App that can automatically pace Soldiers or study volunteers. To help transition our models to our customers, we are developing web interfaces to risk assessment tools.

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. As part of this learning experience, you will have an opportunity to learn the end-to-end data collection process of a large field research study, including how to collect data in the field with military personnel.

This learning experience will also provide you with an opportunity to learn industry standards for data processing, cleaning, and analysis. You will learn advanced machine learning approaches to identifying and classifying exertional heat injuries and how to translate advanced Artificial Intelligent algorithms and models to an Android Smart phone platform and browser based user interfaces. By the end of this experience, you will gain the knowledge and understanding of industry standards in writing code for a smartphone or a web browser user interface, ergonomic design aspects such as information flow, and human-computer interaction principles.

Where will I be located?

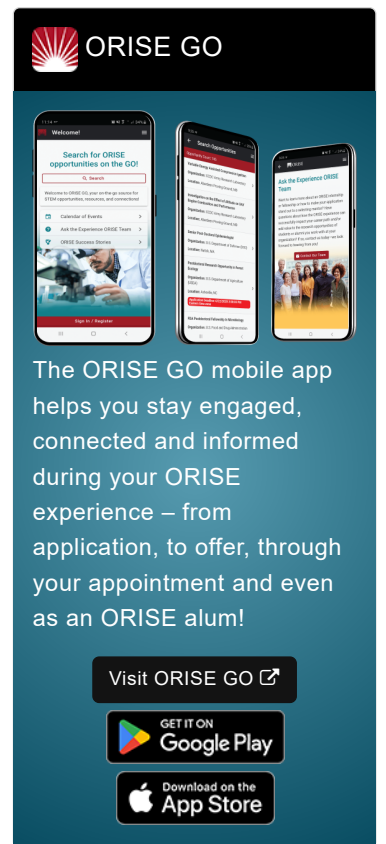
Natick, Massachusetts (Some travel to US Army and Marine bases for data collection may be required)

What is the anticipated start date?

The USARIEM is ready to make appointments effective March 2023. 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.

Appointment Length

An ORISE appointment period can be a short-term (less than two weeks), summer (10-12 weeks), or year-long appointment. Appointments may be extended depending on funding availability,



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project assignment, program rules, and availability of the participant.

What are the benefits?

You will receive a stipend to be determined by the Department of Defense (DoD). 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

Nature of Appointment

The participant will not enter into an employee/employer relationship with ORISE, ORAU, DOD, or any other office or agency. Instead, the participant will be affiliated with ORISE for the administration of the appointment through the ORISE appointment letter and Terms of Appointment.

About USARIEM

The US Army Research Institute of Environmental Medicine (USARIEM) is an internationally recognized center of excellence for Warfighter health and performance science located in Natick, Massachusetts. USARIEM functions as a world-class laboratory for research related to environmental medicine, biophysics and biomedical modeling, military performance, thermal physiology, physiology, and nutrition.

For more information about the USARIEM, please visit <https://www.usariem.army.mil/>.

Qualifications Qualified candidates must be a current student pursuing or have obtained a Bachelor's degree in a biomedical or computational science field (such as biomedical engineering or computer science).

Highly competitive applicants will have experience or skills in the following:

- Familiarity with advanced coding languages such as C# and Java, and have demonstrated this in developing their own programs.
- Experience programming within statistical software programs (such as Matlab or equivalent).
- General knowledge of basic statistics, i.e., how to use descriptive and analytical statistics such as a t-test.

The successful applicant will be required to comply with Environmental, Safety, and Health (ES&H) requirements of the host facility, including but not limited to COVID-19 requirements (e.g., facial covering, physical distancing, testing, vaccination).

A complete application consists of the following:

- 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

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institution systems may be submitted. [Click here for detailed information about acceptable transcripts.](#)

- One Recommendation

Submitted documents must have all social security numbers, student identification numbers, and/or dates of birth removed (blacked out, blackened out, made illegible, etc.) prior to uploading into the application system. All documents must be in English or include an official English translation.

If you have questions, send an email to ARMY-MRMC@orise.orau.gov. Please list the reference code of this opportunity USAMRMC-RIEM-2022-0008 in the subject line of the email.

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- Eligibility Requirements**
- **Citizenship:** U.S. Citizen Only
 - **Degree:** Bachelor's Degree received within the last 60 months or currently pursuing.
 - **Discipline(s):**
 - **Computer, Information, and Data Sciences** ([16](#) 👁)
 - **Engineering** ([2](#) 👁)
 - **Life Health and Medical Sciences** ([45](#) 👁)
 - **Age:** Must be 18 years of age