PREP Research Associate

This position is part of the National Institute of Standards (NIST) Professional Research Experience (PREP) program. NIST recognizes that its research staff may wish to collaborate with researchers at academic institutions on specific projects of mutual interest, thus requires that such institutions must be the recipient of a PREP award. The PREP program requires staff from a wide range of backgrounds to work on scientific research in many areas. Employees in this position will perform technical work that underpins the scientific research of the collaboration.

Research Title:
Multi-Sensor Time Synchronization

US Citizen Preferred

The work will entail:
The Intelligent Systems Division is looking for an intern to design, construct, and document a hardware system for generating simultaneous time synchronization signals for multiple sensor systems. This system will generate and transmit signals that will be leveraged to temporally align multiple streams of data during human subject trials. The chosen candidate will work as part of a team to advance NIST's human-robot interaction research. Task efforts will include the development of hardware and software to 1) facilitate the generation and transmission of multiple signal formats, 2) display relevant timing information, and 3) take human inputs to trigger the generation and transmission of synchronization signals. End-of-project deliverables will include a hardware prototype, and a final report documenting the development and testing of the system.

Key responsibilities will include but are not limited to:

- Getting up to speed with current systems and sensor inputs
- Designing multiple options for time synchronization
- Building selected design
- Designing trials to test prototype
- Iterating on design to refine process
- Presenting intermediate results at lab meetings and a final wrap-up presentation
- Ensuring that results, protocols, software, and documentation have been reviewed by the lab team and archived for future access

Qualifications

- Pursuing a major in Computer Science, Engineering, Manufacturing, or a related field
- Familiarity with electronics and sensors, prototyping
- Some software background would be helpful but not essential
- Strong oral and written communication skills

Privacy Act Statement

Authority: 15 U.S.C. § 278g-1(e)(1) and (e)(3) and 15 U.S.C. § 272(b) and (c)

Purpose: The National Institute for Standards and Technology (NIST) hosts the Professional Research Experience Program (PREP) which is designed to provide valuable laboratory experience and financial assistance to undergraduates, post-bachelor's degree holders, graduate students, master's degree holders, postdocs, and faculty.

PREP is a 5-year cooperative agreement between NIST laboratories and participating PREP Universities to establish a collaborative research relationship between NIST and U.S. institutions of higher education in the following disciplines including (but may not be limited to) biochemistry, biological sciences, chemistry, computer science, engineering, electronics, materials science, mathematics, nanoscale science, neutron science, physical science, physics, and statistics. This collection of information is needed to facilitate administrative functions of the PREP Program.

Routine Uses: NIST will use the information collected to perform the requisite reviews of the applications to determine eligibility, and to meet programmatic requirements. Disclosure of this information is also subject to all the published routine uses as identified in the Privacy Act System of Records Notices: NIST-1: NIST Associates.

Disclosure: Furnishing this information is voluntary. When you submit the form, you are indicating your voluntary consent for NIST to use of the information you submit for the purpose stated.