Job Description for Autonomous and Control Systems Development Postdoctoral Position in Robotics/Counter Robotics R&D Department

About Sandia
Sandia National Laboratories is the nation's premier science and engineering lab for national security and technology innovation. We are a world-class team of scientists, engineers, technologists, post docs, and visiting researchers all focused on cutting-edge technology, ranging from homeland defense, global security, biotechnology, and environmental preservation to energy and combustion research, computer security, and nuclear defense.

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Department Description
The Robotics/Counter Robotics R&D Department specializes in autonomous operations of unmanned systems, advanced controls, miniature mechanical design and fabrication, advanced drive system development and cybernetic systems. Our autonomous systems capabilities focus on dynamic, tactical operations in adversarial environments, with a current focus on active, autonomous perception. Our advanced controls capabilities include distributed control of heterogeneous cooperative systems, real-time control of dynamic systems, and control implementation on hardware. Our advanced drive system development capabilities include energy efficient actuator design, variable output actuators for dynamic environments and intelligent actuators for complex, dynamic environments with elements of human-machine teaming. Our cybernetic capabilities include implantable sensors and neural interfaces, a dynamic prosthetic socket, a brain-emulating cognition and control architecture, and modular integrated Microsystems. Opportunities exist to conduct state-of-the-art research and development in robotics, autonomous systems and related technologies.

Job Description
Postdoctoral appointee.

Job Details
Postdoctoral associate to lead and support the development of novel autonomous behavior and control solutions for robotic, unmanned and mechatronic systems for national security applications. This position requires working as part of multidisciplinary science and engineering teams doing cutting edge research and technology development to support the nation’s security needs.

Responsibilities include developing and demonstrating novel algorithms for autonomous behaviors and for the control of a variety of mechatronic systems. Work will be conducted in a team environment devoted to developing and fielding novel robots and autonomous control systems. Work will include executing technical work with excellence and may include participating in the development of competitive funding proposals, and publishing results in peer reviewed journals.

Required:

1. PhD in Electrical / Mechanical / Aerospace Engineering, Computer Science, Robotics, or similar, with a focus on algorithm development, perception, or control systems.
2. Experience in the development of algorithms with relevance to autonomous system behaviors, advanced perception, or control systems.
3. Experience developing software applications, particularly with a focus on implementation on hardware or realistic simulation platforms

Desired:

1. Experience with dynamic systems modeling and/or optimization
2. Experience with machine learning and/or object classification / target recognition.
3. Experience developing novel robotic or unmanned systems.

Security Clearance

Sandia is required by DOE directive to conduct a pre-employment background review that includes personal reference checks, law enforcement record and credit checks, and employment and education verifications.

Applicants for employment must be able to obtain and maintain the appropriate DOE security clearance if required for a position. Applicants offered employment with Sandia are subject to a federal background investigation to meet the requirements for employment including access to classified information or matter.

Substance abuse or illegal drug use, falsification of information, criminal activity, serious misconduct or other indicators of untrustworthiness can cause a clearance to be denied by the DOE, rendering the inability to perform the duties assigned and resulting in termination of employment.

Citizenship

Sandia is a Department of Energy (DOE) national laboratory; as such, many of our jobs require a DOE security clearance, which requires U.S. citizenship. If this position requires a Department of Energy (DOE)-granted security clearance, U.S. citizenship and employee eligibility for clearance processing will be required at the time of hire.

If you hold dual citizenship and you accept a job offer for a position that requires a DOE-granted security clearance, you will be asked by DOE to renounce your foreign citizenship and retain only your U.S. citizenship.

Benefits

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