Opportunity Title: Robotics for Structural Inspection and Repair Internship
Opportunity Reference Code: DOE-MSIPP-19-10-LANL

Organization	U.S. Department of Energy (DOE)
Reference Code	DOE-MSIPP-19-10-LANL
How to Apply	A complete application must include the following to be considered: • Completion of all required fields in the application and successful application submission • Undergraduate or graduate transcripts as appropriate • Two recommendations If you have questions, send an email to us at MSIPPinternships@orau.org . Please include the reference code for this opportunity in your email. For Technical information, contact David Mascarenas at dmascarenas@lanl.gov
Application Deadline	1/21/2019 11:59:00 PM Eastern Time Zone
Description	The Minority Serving Institutions Partnership Program (MSIPP) Internships is a new program to promote the education and development of the next generation workforce in critical science, engineering, technology, and math (STEM) related disciplines that complement current and future missions of DOE national laboratories. The MSIPP Internship program is designed to provide an enhanced training environment for next generation scientists and engineers by exposing them to research challenges unique to our industry. MSIPP Interns will be given the opportunity to complete Summer Internships aligned with ongoing U.S. Department of Energy Office of Environmental Management (DOE-EM) research under the direction of a host national laboratory. The internship will be performed at the host national laboratory, utilizing their facilities and equipment under the guidance of a research staff member. Minority Serving Institutions are institutions of higher education enrolling populations with significant percentages of undergraduate minority students. For more information about The Minority Serving Institutions Partnership Program (MSIPP) Internships, please visit http://srnl.doe.gov/msipp/internships.htm. To see all MSIPP position postings visit: https://orise.orau.gov/msipp/ **Project:** Robotic technology is rapidly maturing to the point where it can provide great value for application such as infrastructure maintenance. Technologies such as drones, augmented reality, and small form factor robotics can all help enable infrastructure inspection and repair tasks that were previously not feasible. For example, it is now conceivable to outfit a drone with a caulking gun in order to apply sealant to damage in roof areas that are otherwise difficult to access. In addition we can now legitimately consider outfitting a quadrotor with a sanding pad to repair damage in roofs. Augmented reality opens the door to new human-machine interfaces to better control these robots in a faster, more high-precision manner. **Location:** This internship will be located at Los Alamos National Laboratory. **Salary:** Selected candidate will be compensated by either a stipend or salary, and may include one round trip domestic travel to and from the host laboratory. Stipends and salaries will be commensurate with cost of living at the location of the host laboratory. Housing information will be provided to interns prior to arrival at the host laboratory, and will vary from lab to lab.

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Application Deadline: January 21, 2019

Expected Start Date: May 28, 2019

Qualifications

Eligible applicants must:

- Be a citizen of the United States,
- Be at least 18 years of age,
- Currently enrolled as a full-time undergraduate or graduate student at an accredited Minority Serving Institution, https://orise.orau.gov/msipp/documents/approved-msi-school-list.pdf,
- Working toward a science, technology, engineering, or mathematics (STEM) degree,
- Have an undergraduate or graduate cumulative minimum Grade Point Average (GPA) of 3.0 on a 4.0 scale, and
- Pass a drug test upon selection to participate in the MSIPP. The process and timing for drug testing varies from lab to lab. Use of Marijuana/Cannabis or its derivatives if prescribed is legal in some states. However, having these drugs in your system is NOT legal at United States Federal Contractor sites and National Laboratories.

Successful candidates will:

Educational background in Computer Science, Electrical Engineering, or Mechanical Engineering.

Preferred Skills:

Strong Programming skills: C/C++, Python, OpenCV, C#, Robot Operating System, Ubuntu Linux
Signal/Image Processing Background

Controls Background

Experience using embedded computers: Beagle Bone, Rasbery Pi, Jetson Simple Mechanical Fabrication Skills

Experience in robotics/drones

Eligibility Requirements

- **Citizenship:** U.S. Citizen Only
- **Degree:** Currently pursuing an Associate's Degree, Bachelor's Degree, Master's Degree, or Doctoral Degree.
- **Overall GPA:** 3.00
- **Discipline(s):**
  - **Computer, Information, and Data Sciences** (16 👁)
  - **Engineering** (27 👁)
  - **Mathematics and Statistics** (10 👁)

Affirmation

Certification:

I certify that I am at least 18 years of age, a US citizen, and currently enrolled as a student in a degree seeking undergraduate or graduate program in a STEM field at an accredited Minority Serving Institution (MSI). Click here to verify that you are enrolled at a current MSI.