

CALL FOR APPLICATIONS: RESEARCHER

Job/position/grant:

Job reference: AE2025-0049 (CRAS-Geral - CRAS)
INESC TEC - Instituto de Engenharia de Sistemas e Computadores, Tecnologia e Ciência

Job/position/grant: RESEARCHER

City: Porto

Research field: Main: ENGINEERING
Sub: Electrical engineering

Job summary:

INESC TEC is accepting applications for 1 RESEARCHER job in the Robotics

Scientific Advisor: André Dias

Start Date: 2025-03-03

Location: INESC TEC, Porto, Portugal

Job description:

Work Area: Robotics

Project overview: 775 / 5 000 - Conduct a survey of requirements for the development of a UAV for the indoor and outdoor scenario; - Development of Deep Learning algorithms for identifying pathologies in photovoltaic panels; - Development of algorithms that allow inventory reconciliation to be carried out in indoor scenarios through barcode reading; - Development of algorithms that allow inspection of photovoltaic panels in outdoor scenarios; - Development of a sensory payload that can be integrated into the developed prototype; - Implement the algorithms in the ROS framework. - Carry out preliminary flight tests with the developed UAV; - Exercise a critical spirit in evaluating the research process and the results obtained.

Objectives: Integrate autonomous aerial vehicles as a process digitalization solution, which included the digitalization of warehouses in the case of indoor scenarios and the automatic inspection of photovoltaic panels in the case of outdoor scenarios. Development of a framework that allows commercial and non-commercial drones to be equipped with perception and navigation capabilities and that can contribute to optimizing processes. Implementation of automatic inspection maneuvers for photovoltaic panels combining pathology identification techniques with navigation techniques to carry out automatic inspection maneuvers.

Academic Qualifications: Master's degree in electrical engineering, computer science, bioengineering or a related field.

Minimum profile required: Master's in Electrical Engineering

Preference factors:

- Over 2 years of experience in developing robotic platforms, their conceptualization and design;
- Robot operative system ROS/ROS2, PX4, LiDAR, Stereo and Monocular vision, Perception, AI, ML, Path Planning Control, Sensor Fusion Algorithms
- Previous experience in Deep Learning for identifying photovoltaic panels;
- Previous experience in AutoPilot for UAV / UAS;
- Previous experience in 3D modeling using Solidworks and Fusion;
- Real-Time Operating Systems: FreeRTOS
- Participation in scientific projects and writing scientific documents.

Funding Entity:

Type of contract: Uncertain term contract

The hiring shall be governed by what is stipulated in the legislation in force regarding uncertain term employment contracts and by INESC TEC norms.

Selection criteria: The selection of the candidates will be based on the following criteria, in descending order of consideration:

- Relevant Curriculum in the concerned field of this tender
- Proven experience.

Disability Incentive: Candidates who present a degree of disability equal to or greater than 90% will benefit from an incentive (20) in the score of the CV Assessment.

Candidates who present a degree of disability equal to or greater than 60% and less than 90% will also benefit from an incentive (10) in the score of the CV Assessment.

Said score may, in these cases, exceed 100 points.

Candidates must demonstrate the degree of disability during the application, namely through the submission of the Multi-Purpose Medical Certificate of Disability, issued in accordance with Decree-Law no. 202/96, of October 23 - currently in effect.

Candidates must declare, in the application form, the type of disability used throughout the selection process, in order to proceed with the required adaptations.

Selection Jury:	President of the Jury: André Dias; Member: Hugo Miguel Silva; Member: Diana Viegas;
Notification of results:	The results of the selection process will be sent to the interested by electronic mail.
Application period:	From 2025-01-30 to 2025-02-12
Application submission:	Electronic form filling in www.inesctec.pt in the section Work with Us