

INESC TEC | RESEARCHER (AE2025-0048) INESC TEC

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Posted Jan. 31, 2025, set to expire Jun. 2, 2025

Job Title	INESC TEC RESEARCHER (AE2025-0048)
Department	CRAS
Institution	INESC TEC PORTO, , Portugal
Date Posted	Jan. 31, 2025
Application Deadline	Feb. 12, 2025
Position Start Date	Jan. 30, 2025
Job Categories	Graduate Student
Academic Field(s)	Robotics Engineering - Other
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Job Description	

Research Opportunities

Robotics

Work description

The work to be developed consists of research, development and engineering activities in sensory systems for robotic systems in aquatic environments. In particular, the aim is to develop biological sampling systems, eDNA collection in an underwater environment and integrate these systems into underwater and surface robots. Thus, the work plan includes the development of mechanical solutions,

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design and implementation of specific electronic components and subsystems, embedded software programming at both the subsystem and robot levels. It also includes the integration of the systems developed as well as other commercially available sensors in underwater and surface robots, both at the software and hardware level. In parallel to these R&D activities, the activity to be carried out includes not only carrying out validation experiments, field tests and contributing to the publication of the scientific results obtained.

Academic Qualifications

- Master's degree in Electrical Engineering or related field.

Minimum profile required

- Master's degree in Electrical Engineering and over 2 years of proven experience in developing robotic platforms in terms of hardware and software.
- Experience in developing water sampling and filtration systems.
- Participation in scientific projects and writing scientific documents.

Preference factors

- Knowledge of C, C++ and Python programming languages, focused on applications for robotic systems.
- Experience in hardware and firmware development, including PCB design and production, with proficiency in EDA tools such as KiCad.
- Experience with programming microcontrollers, especially the STM32 family.
- Experience with real-time operating systems, especially FreeRTOS.
- Experience in developing embedded systems.
- Experience in 3D modeling with CAD software, especially SolidWorks.
- Skills in real-time and in-situ water sampling and filtration systems.
- Development and implementation of mechanical and micro-hydraulic systems.
- Knowledge in eDNA collection within the scope of scientific research projects.
- Collaboration in multidisciplinary teams and with researchers from different scientific and technical areas.

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- Scientific publications in engineering in the area of “eDNA sampling” in aquatic environments.
- Experience in field missions with robotic systems.

Application Period

Since 30 Jan 2025 to 12 Feb 2025

Centre

Robotics and Autonomous Systems

Scientific Advisor

[Alfredo Martins](#)

What we offer

- **Multicultural and collaborative environment**
- A multicultural, international and collaborative environment that makes it easier to exchange ideas, work in networks and create synergies.
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- **Informal Events**

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- Annual informal events, such as the multicultural party.

For more information: [Click Here](#)

Contact Information

Please reference Academickeys in your cover letter when applying for or inquiring about this job announcement.

Contact

Portugal

Contact E-mail rh@inesctec.pt