

1 Research Studentship for PhD students

Applications are open for 1 Research Studentship for PhD Students, within the framework of project Responsible.AI (Contrato nº 12 - IST-ID) financed by national funds PRR (Plano de Recuperação e Resiliência), through IAPMEI - Agência para a Competitividade e Inovação, under the following conditions:

Scientific Area: Electrical, Computer and Information Engineering

Admission Requirements: To be enrolled at a PhD.

Workplan: Despite recent advancements in AI and Robotics, there are still tasks that robots struggle to perform, such as dangerous, boring, or repetitive ones. While robots have taken over some well-structured isolated tasks, humans still handle more dextrous tasks, even if they come with risks of musculoskeletal diseases and potential danger. In manufacturing, we often see people working alongside robots in work cells that require more flexibility and precision than current robotics can provide. Unfortunately, these work cells are often prone to occupational hazards. The long-term objective of our research program is to create a more balanced division of labour between humans and robots. We aim to develop new robotic capabilities that can handle dangerous and repetitive work, allowing humans to focus on more fulfilling tasks. In the short term, our project, PACKBOT, focuses on developing methodologies to enable robots to assist humans in tasks that carry a high number of occupational hazards. We specifically focus on tasks that involve handling large numbers of objects with varying weights and sizes and require frequent changes in body posture. This PhD internship aims to develop methodologies that allow robots to learn and collaborate safely alongside humans in complex tasks that cannot be pre-programmed. These robots will initially learn individually and later from human experts in a symbiotic manner, enabling them to apply their expertise in executing these tasks independently, collaboratively, or under human supervision. The methods use computer vision, machine learning, and robotics.

Legislation and Regulations: Statute of Scientific Research Fellow, approved by Law nr. 40/2004, of August 18, as worded by Decree-Law nr. 123/2019, of August 28; FCT Regulation for Research Studentships and Fellowships, available on <https://www.fct.pt/apoios/bolsas/docs/RegulamentoBolsasFCT2019.pdf> and <https://dre.pt/application/file/a/127230968>.

Workplace: The work will be developed at Institute for Systems and Robotics / LARSyS of Instituto Superior Técnico, under the scientific supervision of Professor José Alberto Rosado dos Santos Victor and Dr. Nuno Ferreira Duarte.

Duration: The research fellowship will have the duration of 3 months. It's expected to begin in August 2024, and may eventually be renewable.

Monthly maintenance allowance: According to the values for Research Fellowships awarded by FCT in Portugal (https://www.fct.pt/wp-content/uploads/2024/02/Tabela-de-Valores-SMM_atualizacao-2024.pdf), the amount of the monthly maintenance allowance is 1,259.64€, being the payment method an option of the Fellow by Wire Transfer/Check.

Selection methods: The selection methods will be the following: Curriculum evaluation, namely background in the research area defined in the workplan, with the respective weight of 100%.

Composition of the selection Jury: Professors José Santos-Victor, Alexandre Bernardino, and Plinio Moreno.

Announcement/ notification of the results: The final evaluation results will be communicated to all applicants by email.

Deadlines and procedures of complaint and appeal: a complaint may be lodged from the final decision within 15 working days, or an appeal to the Executive Board of IST-ID within 30 working days, both counted from the respective notification.

Application deadline and formalization: The call is open from July 24 until August 6, 2024.

It is mandatory to formalize applications with the submission of the following documents:

i) B1 Form – Fellowship application (<https://ist-id.pt/concursos/bolsas/>);

- ii) Curriculum Vitae;
- iii) official academic degree certificate;
- iv) proof of enrollment in a doctoral program;
- v) motivation letter.

Applications must be submitted at <https://welcome.isr.tecnico.ulisboa.pt/opportunities/> with the subject **“PackBot Scholarship”**