(BL80/2026_IST-ID)

NOTICE FOR THE AWARD OF GRANTS WITHIN THE SCOPE OF R&D PROJECTS AND INSTITUTIONS

Research Grant (integrated master's student)

An opening is hereby announced for the award of 1 Research Grants, within the scope of the R&D project/institution DAEDALUS-FCT (IST-ID), (2023.17639.ICDT - 15288), funded by national funds through FCT/MCTES (PIDDAC), under the following conditions:

Scientific Area: Intelligent Systems, Interaction and Multimedia and Animal Biology

Admission requirements: *be enrolled in an integrated master's programme or in a master's programme.*

Work plan: The work plan of this thesis will focus on the construction of an annotated multimodal database, obtained with conventional optical cameras and synchronized event cameras, across multiple reference species and in a realistic context, followed by the development of an advanced computational pipeline for robust estimation of cephalic anatomical landmarks in video, capable of reducing errors associated with motion blur, flickering and low temporal resolution, while at the same time integrating multi-frame information, event-guided temporal interpolation and confidence mechanisms to distinguish artefacts from biologically relevant rapid variations; in parallel, a three-dimensional head reconstruction and fitting component will be developed to infer hidden points in 2D sequences with greater precision, incorporating anatomical, geometric and temporal constraints to deal with self-occlusions, rotations and unfavourable views; finally, the proposed methods will be compared quantitatively with conventional approaches, based on metrics of spatial error, temporal stability and robustness to partial observation, with the aim of producing a data resource and a reproducible pipeline of interest for computer vision, biomechanics, robotics and comparative anatomical analysis.

Applicable legislation and regulations: Law No. 40/2004 of 18 August (Statute of the Scientific Research Grant Holder), as amended by Decree-Law No. 123/2019 of 28 August; IST-ID Research Grant Regulation, available at https://ist-id.pt/concursos/bolsas/ ; FCT Research Grant Regulation, available at https://dre.pt/application/file/a/127230968 .

Place of work: The work will be carried out at CERENA and IT of CERENA of IST-ID and Instituto de Telecomunicações, under the scientific supervision of Professors Ricardo Araújo and Paulo Lobato Correia.

Duration of the grant(s): The grant will last 6 months, with an expected start in January 2027. The grant contract may be renewed up to a maximum of 12 months, including the initial duration of the contract.

Monthly maintenance allowance amount: The amount of the grant is €1090.98, in accordance with the table of amounts for grants awarded directly by FCT, I.P. in Portugal (https://www.fct.pt/fct-atualizou-o-valor-das-bolsas-para-2026/)

Selection methods: The selection methods to be used will be the following: curriculum evaluation and, if the candidate's curriculum is considered adequate, an individual interview (the individual interview must comply with the principles of equality, impartiality and transparency, aiming only at the objective clarification of academic, scientific and motivational elements relevant to the candidate's evaluation*)*.The selection of candidates will be carried out on the basis of two methods, assessed on a scale from 0 to 20 points: curriculum evaluation and individual interview. Curriculum evaluation will have a weighting of 50%, focusing on academic merit, training and previous experience relevant to the work plan, namely in computer vision, motion analysis, data processing, biomechanics, vertebrate zoology or related areas. The individual interview will have a weighting of 50% and is intended to assess the candidate's motivation, command of the project's objectives, scientific reasoning ability,

aptitude for autonomous and team work, as well as the suitability of the profile for the proposed tasks. The final classification will be obtained using the formula: FC = (CE × 0.50) + (II × 0.50), where CE corresponds to curriculum evaluation and II to the individual interview.

Composition of the Selection Jury: Prof. Ricardo Araújo, Prof. Paulo Correia, Prof. Leonardo Azevedo

Form of publication/notification of results: All candidates will be notified by e-mail of the Final Evaluation Result.

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 form of submission of applications: The call is open from November 23 until December 7, 2026.

Applications must be formally submitted, mandatorily, by sending the following documents: i) Form B1 - Application for a Research Grant (https://ist-id.pt/recursos-humanos/bolseiros/#documentos-relacionados), ii) *Curriculum Vitae;* iii) certificate of qualifications, if applicable; iv) proof of enrolment in a cycle of studies leading to the award of an academic degree (master's degree, integrated master's degree; v) motivation letter;

These documents must be sent by e-mail to: Ricardo.araujo@tecnico.ulisboa.pt and paulo.lobato.correia@tecnico.ulisboa.pt