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CALL FOR RESEARCH GRANT ASSIGNMENT

Reference PRBI/33/2026

A public competition is open for the award of one Research Scholarship for a Bachelor's degree holder within the scope of project no. 24349 “AI4NextGen - Plataforma de Generative AI para a próxima geração das Comunicações Móveis”, with the operation code COMPETE2030-FEDER-02965700, of the Universidade Politécnica de Coimbra, financed under the terms of Notice MPr-2025-4 - SIID - I&D Empresarial - Individual and Copromotion Operations, with financial support from the European Regional Development Fund (ERDF), through the Innovation and Digital Transition Thematic Programme (COMPETE 2030), Portugal 2030 and the European Union, under the following conditions:

The work to be carried out aims at the development of a two-phase fraud detection system for telephone calls. In a first phase, a synthetic database containing telephone call transcriptions will be built, an essential resource for developing behavioural and fraud detection models. In a second phase, the system will be enriched with multimodal information, integrating voice, conversation dynamics and call metadata, in order to increase the robustness and accuracy of detection.

The project foresees the use of simulated and real datasets and will be carried out in close collaboration with WIT Software, one of the leading Portuguese companies specialised in the development of applications and services for mobile operators and telecommunications companies.

The work aims to achieve the following general objectives:

1. Construction of a synthetic database of telephone call transcriptions and development of behavioural detection models
2. Enrichment of the system with multimodal information, integrating voice, conversation dynamics and call metadata
3. Validation of the multimodal system, assessing the gains in robustness and accuracy in fraud detection

Scientific area: Informatics Engineering

Requirements:

- Bachelor's degree holder in Informatics Engineering or in a related área, enrolled in a master's degree or integrated master's degree, or enrolled in a non-degree-granting course integrated into the educational program of a higher education institution.

Work Plan:

The scholarship holder will be integrated into the technical and scientific team of the project "AI4NextGen", focusing on the development of the following activities:

1. State of the Art
   Literature review and review of existing approaches in behavioural fraud detection and in multimodal detection in telephone calls
2. Identification of Resources and Requirements Analysis
   Identification of the fundamental components of the telephone call transcriptions and of the multimodal sources (voice, conversation dynamics, metadata), as well as the functional and non-functional requirements of the system.
3. Development of the Approaches
   Construction of the synthetic database, development of the behavioural detection models and integration of the multimodal information.
4. Validation
   Comparative evaluation of the system across the two phases, measuring the gains in robustness and accuracy in fraud detection.

Scholarship Length:

The scholarship has a duration of 6 months, possibly renewable for identical period, on an exclusive basis, in accordance with the Order (Despacho) no. 5963/2020, of June 1, in its current wording, of the Universidade

Politécnica de Coimbra, in accordance with the UPCoimbra Scholarship Holders Regulation, scheduled to start in November 2026.

Monthly Maintenance Allowance:

1.090,98 euros, according to the table of research scholarship amounts awarded in Portugal by FCT, I.P. (https://www.fct.pt/wp-content/uploads/2026/03/Tabela-de-Valores-SMM-2026.pdf), the payment being made monthly by bank transfer.

To this amount is added the voluntary social insurance corresponding to the first contribution tier, should the candidate opt for enrolment, as well as personal accident insurance.

Workplace:

The work will be carried out at the facilities of ISEC | Instituto Superior de Engenharia de Coimbra of UPCoimbra and at WIT Software, Centro de Empresas de Taveiro, under the scientific supervision of Professor João Carlos Costa Faria da Cunha, Professor Ana Cristina da Costa Oliveira Alves, Professor Francisco José Baptista Pereira and Professor Simão Pedro Mendes Cruz Reis Paredes.

Selection Criteria:

Applications will be evaluated on a scale from 0 to 20 points, based on the following weighting:

1. Curricular Evaluation (50%), composed of: 50% for the final average grade of the Bachelor's degree, 30% for experience or additional training related to the activities to be carried out, 20% for the motivation letter;
2. Interview (50%), to be conducted only with candidates who obtain a Curricular Evaluation score higher than 10 points.

The Jury reserves the right not to select candidates who do not have the appropriate profile to perform the duties.

Jury of Selection:

The jury responsible for the selection process will be composed of the following Professors PhD:

Effective members:

- João Carlos Costa Faria da Cunha;

- Ana Cristina da Costa Oliveira Alves;

- Francisco José Baptista Pereira.

Substitute members:

- Simão Pedro Mendes Cruz Reis Paredes;

- José Manuel Meireles Marinho.

Mandatory documents:

Applications must include the following documents:

- Application form available on the internet page for this competition at https://www.ipc.pt/bupc/concursos/form/concursos_bolseiros

- Identification, residence, number of identification document and fiscal number.

- Documents proving that the candidate meets the requirements for the respective type of scholarship, such as diploma and proof of enrolment;

- Candidate's motivation letter;

- Curriculum Vitae, including the final average grade of the completed degrees and the grades of all curricular units.

Deadline of Application Submission:

It will be of 10 working days, between 13/11/2026 and 26/11/2026.

Candidates must access and register on the website https://www.ipc.pt/bupc/concursos/form/concursos_bolseiros to submit the application, selecting the procedure for which they intend to apply.

Applications must be delivered exclusively in digital format, in portable document format (pdf), except for documents whose delivery is scheduled in other digital formats.

Application instructions are completed by filling in the sections available at the aforementioned email address.

When formalizing the application, if it contains a classified document that reveals commercial or industrial secrets, or secrets relating to literary, artistic or scientific property, the candidate must expressly indicate such reservation, under penalty of the work in question being freely accessed by any one of the other candidates, in consultation with the process.

When submitting the application, the candidate must provide only the necessary data, according to this notice, and must hide personal data present in the documentation, as these data may be freely accessed by other candidates during the process consultation.

Legislation and applicable Regulation:

The award of this scholarship is based on Law no. 40/2004, of 18 August (Statute of the Scientific Research Scholarship Holder), amended and republished by Decree-Law no. 202/2012, of 27 August, updated by: Decree-Law no. 233/2012, Law no. 12/2013, and Decree-Law no. 89/2013; the Research Scholarships Regulation of the Fundação para a Ciência e a Tecnologia in force (https://www.fct.pt/wpcontent/uploads/2026/01/RBi_Republicado_2025.pdf), Order (Despacho) no. 12709/2016 published in the Diário da República, 2nd series, of 21/10/2016, of the Universidade Politécnica de Coimbra, in accordance with the UPCoimbra Scholarship Holders Regulation.

The scholarship contract template and the final reports to be prepared by the scholarship holder and the coordinator are those set out in the annexes to the Statute of the Scientific Research Scholarship Holder referred to above.

Information of Results:

The final results of the evaluation will be published, through a list ordered alphabetically, by final grade obtained, with all candidates being notified, for the purposes of the prior hearing of interested parties, by email.

For further information please contact:

João Carlos Costa Faria da Cunha through the email: jcunha@isec.pt

Coimbra, November 2026