JOB ADVERTISEMENT

Recruitment of 1 Doctorate in the field of Software analysis

INESC TEC - Institute for Systems and Computer Engineering, Technology and Science, a private research institution, is accepting applications to hire a doctorate researcher for an undefined term resolutive contract to work at INESC TEC's Centre for High-Assurance Software Laboratory.

The hiring process will follow what is provided in Decree-Law 57/2016, August 29, approving the Legal Framework on the Scientific Employment, hereinafter referred to as RJEC, as amended by Act No 57/2017 of 19 July by the Executory Decision No. 11-A/2017 dated 29 December by the Labour Code and by other legislation applicable to individual employment contracts, as well as the internal rules of INESC TEC, considering the specific conditions that are specified in the legal regime mentioned above for hiring doctorates under the projects financed by public funds.

The contract will be for an indefinite period under the project INESC TEC LA, with the reference UIDB/50014/2020, However, INESC TEC can, at any moment, hire the researcher on a permanent basis.

SALARY LEVEL

In accordance with Article 15 of RJEC and Article 2 of Executory Decision mentioned above, the gross monthly remuneration to be allocated is €2.385,80, that corresponds to the 2 remuneratory position, by the Executory Decision No. 11-A/2017 dated 29 December

DUTIES TO BE PERFORMED

Coordination and implementation of R&D projects and knowledge enhancement, preparation of R&D project applications, team management and guidance of junior researchers, scientific production for international journals and conferences, intervention in the scientific and professional communities, as well as coordination and participation in scientific and technological dissemination initiatives, particularly in the field of Software analysis. Tasks to be performed include 1) defining a set of malicious DOM Mutations, 2) defining malicious mutation combinators, and 3) developing an application that injects flaws into web applications via the defined malicious mutations.

WORK PLACE

HASLab, UMinho, Braga

WORK AREA: Software analysis
Development of Web Applications' Verification and Validation software engineering techniques, based on the generation of malicious mutations, and their qualitative and quantitative validation using a set of predefined malicious mutations and attacks.

REQUIRED PROFILE

National, foreigner and stateless candidates holding a PhD degree in Doutoramento em Informática, or related scientific area, and holders of a scientific and professional curriculum showing a relevant profile for the activity to be developed can apply for the tender.

Minimum requirements: Knowledge of Web engineering
Knowledge of software verification and validation techniques
Knowledge of software transformation technique

Preferred qualifications: a good record of scientific publications

FORMALISATION OF THE APPLICATIONS

The applications will be formalised by submitting a specific form in INESC TEC's website. The form is available in the icon "Apply now".

In the same form, each candidate must upload the following documents:

- **Motivation letter:**
  for the job position, addressed to the President of the Executive Commission of INESC TEC, including an activity and career development plan for a maximum period of 6 years. The description should reveal the compliance of this plan with INESC TEC's strategy (see Chapter 2 of INESC TEC's Activity Plan for 2020) and the duties to be performed and should not contain more than 2000 words and no more than 5 pages;
- **Curriculum Vitae:**
  highlighting all the higher education, the scientific and technological production, the activities of crucial research, applied or based on practice, the activities of extension and dissemination of knowledge and the science management activities in the last five years, that the candidate considers more relevant or with greater impact in order to allow the corresponding relevance, quality, timeliness and adequacy.
- **Copy of certificates or diplomas degree:**
  The selected candidates with a PhD granted by a foreign higher education institution will have to present, for hiring purposes, the record of the recognition of that degree, issued by the Portuguese Directorate General for Higher Education or by a Portuguese public higher education institution. The legal framework applicable to the recognition processes required after 1 January 2019 is the one approved by the Decree-Law 66/2018 dated 16 August. The legal framework applicable to the recognition processes required before 1 January 2019, is the one provided by the Decree-Law 341/2007 dated 12 October and regulated by the Ordinance 227/2017 dated 25 July or, alternatively, the legal framework introduced by the Decree-Law 283/83 dated 21 June, in case the recognition is made through equivalence. Regarding this issue, please consult the website of the Portuguese Directorate General for Higher Education: https://www.dges.gov.pt/en
- **Other documents** that you consider relevant for the evaluation of the scientific and curricular journey.

Those candidates who formalise their application incorrectly or do not fulfil the demanded requirements will be excluded from the tender.

The jury has the power to require any candidate, if in doubt, to present supporting documents for their statements. The false statements made by the candidates shall be penalised by law.

EVALUATION AND SELECTION PROCESS

The evaluation is carried out in two phases, which will result in a final classification between 0 and 100 points.

<u>First phase: Curricular assessment</u>
The selection is made through the evaluation of the motivation letter, which will include the activity and career development plan, and of the scientific and curricular journey, focusing on the scientific production and professional activity in the last five years that the candidate considers more relevant. This five year period may be extended by the jury, at the request of the candidate, if reasoned on suspension of the scientific activity for socially protected reasons, namely for parental leave, serious and protracted illness, and other legally protected situations of unavailability for work.

It is intended to assess the scientific and professional curriculum of the candidate focusing on the relevance, quality and timeliness of the factors referred to in Article 5 (2) (a) to (d) of the RJEC and of the motivation letter in the subject area(s) of the tender, considering the specific requirements and the adequacy for the duties to be performed.

F1 - Scientific, technological, cultural or artistic production that the candidate considers more relevant.
F2 - Activities of applied research or based on practice that the candidate considers with greater impact.
F3 - Activities of extension and dissemination of knowledge, namely in the promotion of the culture and the scientific practices that the candidate considers more relevant.
F4 - Project management activities and programmes of science, technology and innovation, or experience in observation, monitoring and evaluation of the scientific and technological system or higher education in Portugal or abroad. Included here are the activities of preparation and submission of applications for science, technology and innovation projects.
F5 - Motivation letter, including the activity and career development plan, integrated and consistent with the duties to be developed under the strategic project of INESC TEC.

The evaluation of all candidates in the first phase must be completed within a period of no more than one calendar month after the applications are received.

The candidates who have obtained less than 70 points in the average of the curricular assessments of the members of the jury will be considered not approved in absolute merit.

The top five candidates in the average of the curricular assessments that were approved in absolute merit will be qualified for the second phase, consisting of an individual interview, either face-to-face or through videoconference. The interview will weight, at most, 10% of the final classification. The candidates who don't qualify for the second phase will have a classification of 0 in the interview.

Second phase: Interview
In accordance with Article 5(5) of the RJEC, as it stands, the Jury will individually interview each candidate that were qualified to the second phase.

During the interview, the members of the Jury will stimulate an open debate about the quality and the innovative and creative nature of the research and professional activity of the candidates, considering the requirements and the subject areas of the specific tender procedure.

The interviews will be conducted within a period not exceeding 10 working days after the decision of the Jury.

FUNCTIONING OF THE JURY

Each member of the Jury will assess all the candidates in all the factors from F1 to F5 between 0 and 100 and must present the reasons for the scores attributed. Abstention is not allowed. A similar procedure will be followed regarding the candidates that are called for the interview. The candidates that are not called for an interview will have 0 points in the second phase.

The curricular assessment (CA) of each candidate is obtained according to the average of the factors (F) that is evaluated by the weights of the following formulation, expressed to the first decimal.

$$AC = F1*30 + F2*30 + F3*15 + F4*15 + F5*10$$

The final classification (FC) of each candidate is obtained according to the average of the final results of the curricular assessment and of the interview (I) that is evaluated by the weights of the following formulation, expressed to the units.

$$CF = AC*90 + E*10$$

After completing the application of the selection criteria, each member of the Jury will sort the candidates according to the final classification assigned to them. Based on this sorting, the Jury will sort the candidates by successive clearance to the first place and following places (each member of the jury follows their personal sorting). The clearance is carried out when a candidate obtains more than half of the votes. If this doesn't happen in the first voting for a particular place, the least voted candidate is eliminated and the procedure is repeated with the remaining candidates (with tiebreakers based on the average of the final classifications).

The Jury will advise the hiring of the candidate approved in absolute merit sorted in the first place.

A minute is drawn up after the jury's meetings, containing a summary of what has arisen from them, as well as the assessments made by each one of the members and their reasons, and shall be made available on request to the candidates.

SELECTION JURY

In accordance with article 13 of RJEC, the jury is composed of the following members:

President of the Jury: Ricardo Morla
Full Member: João Alexandre Saraiva
Full Member: José Creissac Campos
Substitute Member: João Marco
Substitute Member: Alcino Cunha

APPLICATION PERIOD

Application period: From 2020-04-01 to 2020-04-05

NOTIFICATION OF THE RESULTS, PRIOR HEARING AND FINAL DECISION OF THE RESULTS

The results of the selection process will be disclosed to the candidates by email.

After being notified, the candidates have 10 working days to comment on the results of the selection process under their right to a prior hearing. The final decision of the jury will be given within 10 days from the deadline for the decision under the right to a prior hearing.

The present tender is exclusively for occupying the indicated vacancy, expiring once the position is filled.

NON-DISCRIMINATION AND EQUAL ACCESS POLICY

INESC TEC actively promotes a policy of non-discrimination and equal access, so that no candidate can be privileged, benefited, harmed or deprived of any right or exempted from any duty, on basis of origin, age, sex, sexual orientation, marital status, family situation, economic situation, education, social origin or condition, genetic heritage, reduced capacity for work, disability, chronic illness, nationality, ethnic origin or race, region of origin, language, religion, political or ideological convictions and trade union membership.

The candidate with a disability has preference under conditions of equal classification. Candidates must declare on the application form, under word of honour, the respective degree of incapacity, the type of disability and the means of communication to be used in the selection process, in accordance with the abovementioned diploma.

The Executive Commission of INESC TEC approved this job advertisement in the meeting of 2020-03-25, also being responsible for the final decision on hiring.

Governo da República Portuguesa

Fundação para a Ciência e a Tecnologia