

## CALL FOR APPLICATIONS

### Job:

<b>Job reference:</b>	AE2019-0093 (INESC TEC LA - CESE) INESC TEC - Instituto de Engenharia de Sistemas e Computadores, Tecnologia e Ciência
<b>Position:</b>	Scientific Initiation Grants (BIC)
<b>City:</b>	Porto
<b>Research field:</b>	Main: ENGINEERING Sub: Industrial engineering

### Job summary:

<b>INESC TEC is accepting applications to award 1 Scientific Initiation Grant .</b>	
<b>Project:</b>	INESC TEC - UID/EEA/50014/2019
<b>Scientific Advisor:</b>	João Pedro Basto
<b>Duration Grant:</b>	from 2019-05-20 to 2019-08-19 (3) eventually renewable.
<b>Location:</b>	INESC TEC, Porto, Portugal

### Job description:

<b>Work Area:</b> Hybrid Machine Learning/Simulation Approaches for Decentralized Production Scheduling
<b>Project overview:</b> Decentralized decision-making capabilities change the traditional approach for production scheduling. Although long-term planning could still be made at a higher centralized level, mid and short-term planning should be decentralized, those decisions being performed at the shop-floor level. In this scope, the creation of a smart AGV system capable of deciding which part to transport next can increase the productivity of a job shop manufacturing system.
<b>Objectives:</b> The grantee must create a simulation model of a job shop manufacturing system, where the part transportation is done by an AGV. Besides, he must create a neural network capable of making decisions relative to AGV movements, implementing also the training algorithms for the network in C# and the communication between the program running the network and the simulation model.

<b>Academic Qualifications:</b>	Students enrolled for the 1st time in 1st cycle of higher education or in a master's degree.
<b>Minimum Profile required:</b>	Previous knowledge on object-oriented programming, simulation models and genetic algorithms.
<b>Preference factors:</b>	Previous knowledge on C# and SIMIO.
<b>Monthly Grant:</b>	€388,81 according to the Stipends values of the grants awarded directly by the FCT, paid by bank transfer. The grant holder may also benefit from additional incomes in the sequence of a quarterly evaluation process (Clauses 12 and 13 of INESC TEC Grants Regulation and Annex II), up to a maximum of 50% of the monthly grant.

<b>Project duration:</b>	-
<b>Funding Entity:</b>	Funded by National Funds through FCT - Portuguese Foundation for Science and Technology, I.P., in the scope of the project UID/EEA/50014/2019
The grant contract shall be submitted to the legislation concerning the Research Grant Holder Statute , approved by Law n 40/2004, dated 18 August, amended and republished by Decree-Law No. 202/2012 of 27 August and amended by Decree-Law No. 233/2012 of 29 October and by Law No. 12/2013, of January 29, and Decree-Law No. 89/2013 of July 9 as well as by INESC TEC Grant Regulation , approved by FCT - Fundação para a Ciência e a Tecnologia (Science and Technology Foundation) in 12 January 2011 and FCT current Grant Regulation. Additional information about <a href="#">INESC TEC Grants Regulation</a> and relating annexes may be found at <a href="http://www.inesctec.pt/grants">www.inesctec.pt/grants</a>	

<b>Selection Criteria:</b>	Curriculum evaluation based on the criteria referred to in Clause 7 <a href="#">INESC TEC Grants Regulation</a> and will include individual interviews in the final stage of the selection process, with its valuation: 70% curriculum evaluation (40% CV, 20% scientific domains and 10% Expertise) and 30% interview. Only those candidates who obtain at least 70% in the curricular evaluation (CV + Scientific Domain + Experience) will be called for the interview.
<b>Selection Jury:</b>	President of the Jury: Prof. Américo Azevedo; Member: Prof. António Lucas Soares; Member: Prof. José Soeiro Ferreira;
<b>Notification of results:</b>	The results of the selection process will be disseminated to interested parties by mail, as referred to in Clause 8 of <a href="#">INESC TEC Grants Regulation</a> .
<b>Application period:</b>	From 2019-04-17 to 2019-05-03
<b>Application submission:</b>	Fill in the electronic form in the section <a href="#">Work with Us</a> at <a href="http://www.inesctec.pt">www.inesctec.pt</a> , attaching the Curriculum Vitae, copy of school enrollment and other supporting documents relevant to the final assessment.