Call for expression of interest for one (1) position of Researcher with an M.Sc. degree in the Institute of Computer Science (ICS) Foundation for Research and Technology – Hellas (FORTH)

Position: One (1) Researcher with an M.Sc. degree for the MAGICIAN H2020 project

Project: “MAGICIAN - iMMersive leArninG for ImperfeCtion detection and repAir through human-robot interactionN” (Grant Agreement number: 101120731), funded under Horizon 2020, HORIZON-CL4-2022-DIGITAL-EMERGING-02.

Desired starting date: February 1st, 2024
Duration: 6 months with possibility of extension
Location: Heraklion, Crete, Greece
Opening date: 04/12/2023
Closing date: 14/12/2023
Ref.: MAGICIAN-MSc-DEC2023
Description

We seek one researcher in Computer Vision with an M.Sc. degree. The candidate will participate in the R&D activities of FORTH-ICS in the context of the H2020 project “MAGICIAN - iMmersive leArninG for ImperfeCtion detection and repAir through human-robot interactioN”, funded under Horizon 2020, HORIZON-CL4-2022-DIGITAL-EMERGING-02, and will work on Computer Vision related aspects.

A common trait of many important markets is the increasing attention of consumers to the aesthetic quality of the products. Even products like mid-segment cars are required to be defect-free in all the areas falling under the direct sight of the customer. These expectations translate into high-quality standards in the production process, which are currently met by requiring an important physical effort to the workers in unsafe environments. The MAGICIAN project will take on the challenge producing a modular automation solution in which robots are used to detect and rework production defects before the last production phases commence and the aesthetics of the product is finalised. The project will produce two robotic solutions, one for defect analysis (the SR) and one for the defects’ rework (the CR). The SR and the CR can be used separately, with the humans remaining in charge of some of the activities, or in combination, with the CR operating on the defects identified by the SR. The SR can also be used in connection with the welding robotic station in order to adapt the process parameters. The robots will use Artificial Intelligence modules to detect and discriminate the defects from multi-modal data (the SR) or to decide the best policy to use for defect rework (the CR). In both cases, the decision logic of the modules will be trained using machine learning algorithms. The training data set will be acquired with the help of workers, who will operate on semiworked products within a controlled environment. The SR and the CR will rely on the software services of a common robotic platform.

The solution will be developed adopting a human-centered approach, which will allow us to evaluate the impact of the innovation on the production processes and remove the most important asperities along this path. The effectiveness of the solution will be tested on a usecase, and its generality proven by recruiting additional contributors and use-cases through a FSTP scheme.

The candidate will work on computer vision methods for measurement and analysis of human-object interaction in order to contribute in tasks regarding the visual perception of the MAGICIAN system and, more specifically, to the topics of a) Defects detection during inspection b) Post-reworking verification.

Required qualifications:

- M.Sc. degree in Computer Science or a related Engineering field on the topic of Computer Vision
- Research experience - Publications in the field of computer vision with emphasis on perception of humans and/or defect detection
- Experience in machine learning algorithms.
- Experience with computer vision and machine learning development tools.
- Programming languages: C, C++, python.
- Willingness and ability to work in a team, to learn, and to take initiatives.
- Communication skills.

Application Submission

Interested candidates can submit their applications via http://www.ics.forth.gr/jobs/en/ using the link “Apply for the position” under the announcement. Applications must include:

- Detailed CV, including qualifications and interests in the above areas, and proof thereof;
- Scanned copies of academic titles;
- Detailed presentation of prior work, studies and/or publications, references etc. demonstrating knowledge of desired skills (e.g. experience on specific programming languages and hardware platforms).

The candidates may be invited for interview (onsite or remotely) if deemed necessary.

Contact Information:

For information and questions about the advertised position, the activity of the group or the Institute, please contact Mrs Eleni Gaga (gaga@ics.forth.gr).

Selection Announcement

The result of the selection will be announced on the website of ICS-FORTH. Candidates have the right to appeal the selection decision, by addressing their written objection to the ICS secretariat within five (5) days since the results announcement on the web. They also have the right to access (a) the files of the candidates as well as (b) the table of candidates’ scores (ranking of candidates results). All the above information related to the selection procedure will be available at the secretariat of ICS FORTH in line with the Hellenic Data Protection Authority. Access to personal data of co-candidates shall be limited to personal data (and relevant data) and supporting documents which have been the basis of the evaluation of the candidates for the specific post(s). Prior to the announcement of the personal data and/or documents of the co-candidates to the applicant, FORTH will inform the data subjects in an appropriate way.

Disclaimer

FORTH is compliant with all legal procedures for the processing of personal data as defined by the Regulation EU/2016/679 on the protection of natural persons with regard to the processing of personal data. FORTH processes the personal data and relevant supporting documents that you have submitted to us. Processing of that data is carried out exclusively for the needs and purposes of this specific call. Such data shall not be transmitted to or communicated to any third party unless required by law. FORTH retains the above data up to the announcement of the final results of the call, unless further process and reservation is required by law or for purposes of exercise, enforcement, prosecution of certain one’s legitimate legal rights’ as defined in the Regulation EU/2016/679 and/or in national law. We informs you that under the Regulation EU/2016/679 you have the rights to be informed about your personal data, access to, rectification and erasure, restrictions of process and objection to as provided by applicable regulation and national laws. We acknowledge also to you, that you have the right to file a complaint to the national Data Protection Authority. For any further information regarding exercise of your personal data protection rights, you may contact the Data Protection Officer at FORTH at dpo@admin.forth.gr. You have the right to withdraw your application and consent for the processing of your personal data at any time. We inform you that, in this case, FORTH shall destroy such documents and/or supporting documents submitted and shall delete the related personal data.