

Expression of Interest



Contact Person/Scientist in Charge

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Universidad de Alicante

Department / Institute / Centre

- **Name of institution:** Institute of Computers Research
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- **Province:** Alicante

Research Area

- Information Science and Engineering (ENG)

Brief description of the institution:

The University of Alicante (UA) was created in 1979. Today it educates and trains more than 36.000 students -2.500 of them are international students - and offers more than 80 undergraduate and 96 postgraduate programmes: consequently it is proportionally one of the fastest growing universities in Spain. The UA houses 227 research groups in Social and Legal Sciences, Experimental Sciences, Technological Sciences, Human Sciences, Education and Health Sciences and 15 Research Institutes (Water & Environment, Materials, Electrochemistry, Biodiversity, Chemical Processes and Organic Synthesis, and Modern Languages, among others). Thus, the UA employs over 2.400 researchers/ professors and has a complex management /administration structure of 1.300 people, which involves an annual budget of 175 million Euros.

UA is a young and dynamic university with vast experience in implementing EU funded projects in different programmes and areas, with presence in more than 60 countries worldwide. In the last 10 years, UA has successfully acted as coordinator of many Tempus, Alfa, Edulink projects involving Third Countries and Lifelong Learning and Framework Programme (FP, DG Research) Projects. Moreover, the participation in

FP has been increasing in the last years, taking part in 25 5th FP, 26 6th FP, 45 7th FP projects (13 of them coordinated by UA), and 6 in H2020.

It is worth underline the big effort performed by UA in order to meet the commitment with the principles set out in the European Charter for Researchers and in the Code of Conduct for the Recruitment of Researcher

Brief description of the Centre/Research Group (including URL if applicable):

Institute of computers Research is a Center based in the University of Alicante with a team composed by 105 Phd researchers with many different research lines (<http://web.ua.es/en/iuii/>): Intelligent environments, Automatic learning and artificial intelligence. Business Intelligence and information systems, Telematic systems, automatic control and computer engineering, Software Engineering and computer security, Robotics, Translation technology, Artificial vision

Project description:

The Care of dependent people, either by disease, accident, disability, or age, is one of the priority research topics in developed countries. To address this challenge, our main objective is the design, development and evaluation of an assistant for people with acquired brain injury or dependents. This assistant is twofold: in the patient's home is based on the design and use of an intelligent environment with capacities to monitor and active learning, combined with an autonomous social robot for interactive assistance and stimulation. On the other hand it is contemplated with an outdoor assistant, to help patients under disorientation or complex situations. In addition, we propose an experimental evaluation conducted by clinicians who assessed the effectiveness of the system to improve the quality of life of dependent people.

We want to achive the following specific objectives: i) to develop a intelligent monitoring system that allows locate and track, individuals in the scene; ii) Develop a robust positioning and navigation system, to recognize and manipulate 3D objects reduced size on a robot. iii) Design a custom assistant to help the patient in situations of memory lapses, lack of orientation and other situations. iv) to provide the assistant with natural interaction capabilities using new techniques of natural language processing combined with visual attention v) to perform a design of assistance and care rehabilitation stage vi) to publish and disseminate the results to the scientific community

Keywords: Cognitive systems, Ambient Assisted Living, Behaviour recognition, Deep learning

Applications

CV, Recommendation Letters