



## **Job offers: R&D engineers for the creating open source personalised AI-driven assistant for METAVERSO Societies.**

This offer is for the recruitment of 2 engineers to work in the framework of the project 'guardIA: Virtual Personal GuArdian in Hybrid Social RealITies' of the Valencian Research Institute of Artificial Intelligence (VRAIN) of the Universitat Politècnica de València funded by the Regional Ministry of Innovation, Universities, Research and Innovation (Conselleria of Innovation, Universities, Research and Digital Society of the Valencian Communit.

### **The Project:**

In the future, Hybrid social realities (HSR) will allow social interaction to be mediated in unprecedented ways. Humans will be assisted by physical and digital agents, whose behaviours could be indistinguishable. In this context, challenges originate from the interaction between hybrid intelligent bots with humans, but also from an increasing need for detecting untrustworthy or malicious intents or content. The possibility of grounding one's opinions in an undeniable reality and in a trusted verifiable environment will be reduced, while humans and virtual agents will be able to fabricate evidence or information (even real time) in support of information that could be false or wrong. Moreover, much like recommender systems and targeted advertising systems do today based on online behavior, actors controlling interactions and information flows in future HSRs will have even more leverage to exploit the weaknesses of subjects interacting in such environments.

From such a scenario, where essentially nothing remains to be trusted as everything can be fabricated, emerges the general objective:

To assure safer and more sophisticated social interaction in future hybrid reality social spaces by capitalising on AI capabilities.

In order to achieve this goal, the project has set the following specific objectives as necessary steps:

1. Developing a theoretical and technological paradigm for anticipating how HSR will redefine social relationships and what new forms of malicious and manipulative social interaction in virtual environments will emerge.

The flip-side of the enhanced risks of HSRs for malicious and manipulative social interaction, is that the immersiveness of HSRs also holds the potential to assist the individuals who are interacting in such spaces to navigate these information flows and social interactions in a safer and more productive manner. To this end, as a key specific objective, RAISE proposes to investigate the potential of, and develop working prototypes of, a Virtual Personal Guardian (VPG), implemented on the HSR as a technological substrate, ensuring fair and truthful communication, specifically:



2. Creating open source personalised AI-driven assistant, engaging in sophisticated interaction with the end-user, raising his awareness and consciousness about possible malicious attempts and manipulative practices in HSR and thus mitigating their effects.
3. Support public understanding and perception of AI based tools tackling misinformation in immersive environments, applicable in various fields.
4. To develop a research infrastructure and network allowing the exploitation of the project results well beyond the project consortium, further strengthening European excellence in AI research and innovation applied to social interaction.

### Who we are

Valencian Research Institute for Artificial Intelligence (VRAIN), of the Universitat Politècnica de València is composed of researchers belonging to 7 research groups: Language Engineering and Pattern Recognition (ELIRF), Automata, Formal Languages and its Applications (ALFA), Extensions of Logic Programming (ELP), Machine Learning and Language Processing (MLLP), Computer Technology and Artificial Intelligence (GTIIA) and Multiparadigm Software Technology (MIST), Interactive Technologies Lab (VertexLit), and the Research Center on Software Production Methods (PROS) of the Universitat Politècnica de València. With more than 30 years of experience in different lines of research in Artificial Intelligence (AI), the groups that make up VRAIN are national and international references in AI research and their results are supported by their extensive scientific production. In fact, with 110 researchers, VRAIN is one of the largest AI research centers in Spain.

VRAIN's research activity revolves around twelve main research areas: Natural Language Processing, Planning and Reasoning, Software Verification and Analysis, Machine Learning and Deep Learning, Natural Computing, Computational Logic and Automatic Reasoning, Intelligent Agents and Human-Centered Artificial Intelligence, Artificial Intelligence, Privacy and Security, Information Systems Engineering, Software Engineering Testing, Autonomic Computing, Self-Adaptation and Human Interaction, and Genomic Data Science and Genomic Information Systems. These research areas are applied to the development of innovative applications in a large number of strategic sectors such as health, agriculture, industry, privacy/security, autonomous robots, services and energy, and environmental sustainability. These activities have been funded by more than 128 projects obtained through competitive funding, mainly from the European Union, but also from the National Research Plan, the Valencian Research Plan and Technology Transfer Projects. The total funding obtained since 2000 exceeds 18 million euros. VRAIN researchers in these fields have chaired the main Artificial Intelligence conferences (ECAI, AAMAS, EUMAS, IICAPS); and are board members of the main journals and organizations (EURAMAS, AEPIA). VRAIN has produced and continues to produce important scientific publications (more than 2,000 papers since then), many of which have been and are highly cited.



### Requirements:

Degree in computer science, data science, mathematics, telecommunication Engineering, Double Degree in Mathematics and Physics, Engineering Physics. Or equivalent degrees.

Those selected must be admitted to the UPV PhD in Computer Science Program at the time of their time of their recruitment.

(Information on how to pre-enroll in the UPV PhD in Computer Science Program can be consulted at <http://www.upv.es/entidades/EDOCTORADO/info/718437normali.html> or <http://www.upv.es/entidades/EDOCTORADO/info/1004670normali.html>)

### What we offer:

Remuneration: 20.000€ gross per year (22.400€ last year)

Contract duration: 4 years.

Full-time dedication with flexibility options.

Access to UPV sports and academic facilities as any other student.

### Desired technical requirements (it is not necessary to meet all of them):

Programming Python, Java and/or Matlab.

Knowledge of Linux systems management and administration.

Knowledge of Artificial Intelligence.

Knowledge of Machine Learning.

Good level of English with a high level of written comprehension.

Good problem solving and teamwork skills.

Good ability to learn new technologies, and to find and contrast information.

Good oral expression skills

### Submission of applications:

If you have any questions or queries, please contact:

[vbotti@dsic.upv.es](mailto:vbotti@dsic.upv.es) or [agarcia@dsic.upv.es](mailto:agarcia@dsic.upv.es)

In the following links you will find the information to apply for the two positions offered (each position had to be published in a different call for applications and you have to apply for each one of them).

[http://www.upv.es/entidades/VINV/menu\\_urlc.html?/entidades/VINV/info/U0917978.pdf](http://www.upv.es/entidades/VINV/menu_urlc.html?/entidades/VINV/info/U0917978.pdf)

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