PhD Position in Technologies and Artificial Intelligence for Drones-based Systems and Applications

JOB DESCRIPTION

We are looking to fill a pre-doctoral researcher position at the Universidad Politécnica de Madrid (Spain), funded by a contract for PhD training, associated to the CACTUS project (PID2020-118249RB-C21, National Training Sub-programme). The researcher will develop the PhD in advanced drone control technologies and their applications, including aspects of the algorithmic core of systems such as automated mission planning and authorization, data fusion of on-board sensors for robust navigation using artificial intelligence, or human-machine interaction with such systems. These lines of research are aligned with the European research needs in drone air traffic control and defense in the coming years, which are coordinated in Europe through SESAR2020 programme and their successors (www.sesarju.eu), and through the European Defence Agency (EDA), with which the Host Research Group actively collaborates.

REQUIREMENTS

- Engineering Degree/B.Sc./M.Sc., preferably in areas related to Telecommunications, Aeronautics, Computer Science and Electrical Engineering.
- Good level of English.
- Strong interest in applied research.

Although not strictly essential, the following will be positively considered in the selection process: programming languages and environments in cloud, SW engineering, JavaScript and mobile programming, machine learning, artificial vision, statistics and signal processing and simulation techniques.

CONDITIONS OF THE EMPLOYMENT

- Official 4-year pre-doctoral contract to finance the PhD, supplemented up to a salary of 25,000 €/year (first year).
- Integration in a multidisciplinary group of recognized solvency, which has designed critical elements of the Spanish air traffic control system (SACTA) and some of the most implemented systems worldwide (Indra's ManagAir, SASS-C).
- Ongoing relations with companies (Indra, GMV, Enaire, Airbus) and other institutions (Eurocontrol).
- Research stages in foreign universities.

UNIVERSIDAD POLITÉCNICA DE MADRID

UPM (www.upm.es) is the largest Spanish technological university and one of the largest in Europe, with more than 36,000 students (2,108 in Ph.D. Programs). With two recognized Campus of International Excellence, more than 2,900 researchers carry out their activity at UPM, grouped in 205 Research Groups, 55 Laboratories, 19 Research Centers and Institutes, all of them committed to transforming the scientific knowledge into applicable advanced to the production sector. UPM heads the Spanish Universities' participation in the Horizon Programmes Moreover, every year, UPM applies for around 40 patents and receives a similar number of concessions demonstrating a high commitment to innovation. Regarding business creation, UPM has generated about 140 start-ups in the last ten years. With a close support of the business sector, the University annually signs around 600 contracts with private companies.

INFORMATION PROCESSING AND TELECOMMUNICATIONS CENTER

The Information Processing and Telecommunications Center (www.iptc.upm.es) is one of the Research Centers in UPM. It brings together the expertise and resources of around 160 researchers working in the fields of Electronics, Communications, Networks, Computing and Software. UPM-IPTC has a sustained record of involvement in numerous competitive projects (e.g. more than 100 per year), contracted research and an extensive experience of collaboration and technology transfer to companies (more than 60 research contracts per year). With a convinced vocation of cooperation with industry, UPM-IPTC focuses on technologies of social and economic interest.

DATA PROCESSING AND SIMULATION GROUP
The Data Processing and Simulation Group (GPDS), part of the Information Processing and Telecommunications Center and located at ETSIT (www.etsit.upm.es) of the U. Politécnica de Madrid, is formed by fifteen researchers and has a long track record of success in research projects for and in collaboration with companies. GPDS develops different lines of research; for example, the design and development of air traffic control systems deployed worldwide, drone applications for infrastructure monitoring and emergency systems, adaptive mobile and augmented reality applications, smart objects, multisensor acquisition and fusion architectures, reasoning and semantics for ubiquitous computing, indoor precise positioning techniques and sensor network management.

Interested parties should send a detailed curriculum vitae with a recent photograph and grades to Prof. Juan Alberto Besada Portas, juanalberto.besada@upm.es, before 8 November 2021.

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